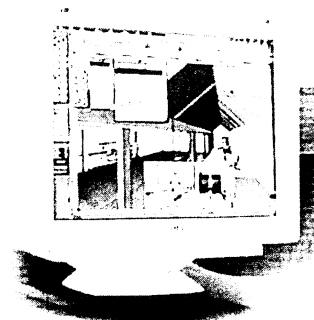


Service
Service
Service



MODEL : V30 107T50/00
107T51/00

Service Manual

Horizontal frequencies
30 - 71 KHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES



PHILIPS

Important Safety Notice



Go to cover page

Proper service and repair is important to the safe, reliable operation of all PHILIPS Consumer Electronics Company** Equipment. The service procedures recommended by PHILIPS and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. PHILIPS could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, PHILIPS has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by PHILIPS must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, PHILIPS Consumer Electronics Company will be referred to as PHILIPS.

WARNING

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line 

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Technical Data

Go to cover page

Technical Specification*

Dimensions : 17 inch
Pitch : 0.25
Deflection angle : 90 degrees
Glass : dark
Light transmission : 50%(CPT), 52.8%(LG), 52.6%(SDI).
Surface : AGARAS
Implosion protection : CRT is provided with P-mini-rim-band.
Black matrix : Yes
Phosphor : P22
EHT : 25 KV (lb=0)
CRT source : CPT, LG, SDI

Scanning
Horizontal scanning : 30 - 71 KHz
Vertical scanning : 50 - 160 Hz

Input signals
Video : Analog level
Sync. : Separate sync. with TTL level
Polarity : Positive or negative

Signal input level
Video : 0.7 Vp-p 75 ohms
Sync : TTL level

Impedance
Video : Terminated with 75 ohms
Sync : Terminated with 4.7K ohms pull down resistors

Video amplifiers
Dot Rate : 108 Mhz

Operating limits
Temperature : 0C to 40C
Humidity : 10 to 90% (W/O condensation)
Air pressure : 700 - 1100 mbar

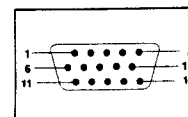
Non-operating limits (storage)
Temperature : -25C to 65C
Humidity : 5 to 95 % (W/O condensation)
Altitude : 300 to 1100 mbar

Carton box
A-1 Size (with pedestal)
496(W)416(H)556(D)
A-2 Carton paper : double wall AB flute corrugate board, color brown
Bursting : 19.3 kgf/cm² min
Compression : 600 kgf min

White color adjustment
Based on the 1931 CIE chromatic diagram (x,y) coordinates of white display on screen center should be:

For 9300 K X = 0.283 0.015 Y = 0.297 0.015
For 6500 K X = 0.313 0.015 Y = 0.329 0.015
For sRGB X = 0.313 0.015 Y = 0.329 0.015

Pin assignment :



The 15-pin D-sub connector (male) of the signal cable :

Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V DDC
2	Green video input	10	Gnd
3	Blue video input	11	Gnd
4	Gnd	12	Bidirectional Data
5	For self-test	13	H.Sync /H
6	Red video ground	14	V.Sync(VCLK for DDC)
7	Green video ground	15	Data clock line(SCL)
8	Blue video ground		

Data Storage

Factory preset modes:

This monitor has 8 factory-preset modes as indicated in the

Factory preset modes : 8

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	31.47 KHz	60Hz (VGA)	-	-
3.	640 x 480	43.3 KHz	85Hz (VESA)	-	-
4.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
5.	800 x 600	53.674KHz	85Hz (VESA)	+	+
6.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
7.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
8.	1280 x 1024	64.0 KHz	60Hz (VESA)	+	+

Automatic Power Saving

	Signal			Compliance	Power
	H-Sync	V-Sync	Video	Requirement	
On	Active	Active	Active	Mandatory	<= 75w
Off	Inactive	Active	Blanked	Mandatory	<= 2 w
Off	Active	Inactive	Blanked	Mandatory	<= 2 w
Off	Inactive	Inactive	Blanked	Mandatory	<= 2 w

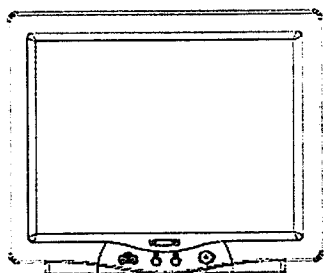
This monitor is ENERGY STAR[®] compliant.

this product meets the ENERGY STAR[®] guidelines for energy Efficiency



ENERGY STAR[®] is a U.S. registered mark. AS AN ENERGY STAR PARTNER, DELL Computer Corporation HAS DETERMINED THAT THIS PRODUCT MEETS THE ENERGY STAR GUIDELINES FOR ENERGY EFFICIENCY.

Front view



107F5/T5



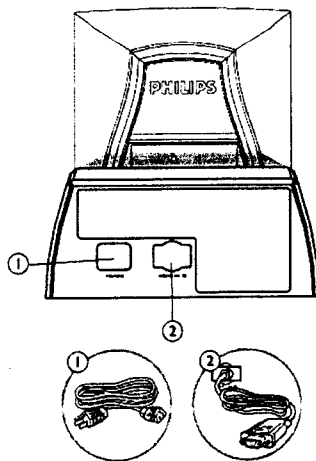
Front control



- ⓘ Power button switches your monitor on.
- ⓘ OK button which when pressed will take you to the OSD controls
- ⓘ Contrast hotkey. When the "+" button is pressed, the adjustment controls for the CONTRAST will show up.
- ⓘ Brightness hotkey. When the "-" button is pressed, the adjustment controls for BRIGHTNESS will show up.
- ⓘ "-" and "+" buttons, are used for adjusting the OSD of your Monitor.
- ⓘ LightFrame hotkey. When the button is pressed, the adjustment controls for LightFrame will show up.

Front control & OSD

Rear view



1. Power in - attach power cable here.
2. Video In - this is a cable which is already attached to your monitor. Connect the other end of the cable to your PC.

Description of the On Screen Display

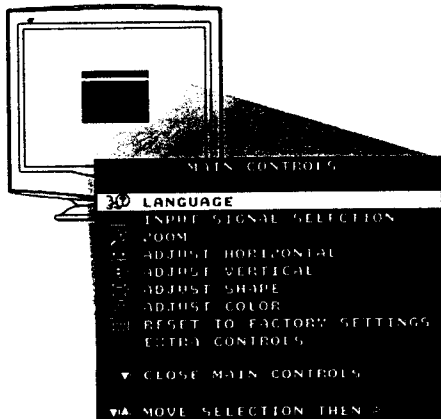
What is the On-Screen Display?

This is a feature in all Philips monitors which allows an end-user to adjust screen performance of monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

Basic and simple instruction on the control keys.

On the front controls of your monitor, once you press the button, the On Screen Display (OSD) Main Controls window will pop up and you can now start making adjustments to your monitor's various features.

Use the the keys to make your adjustments within.

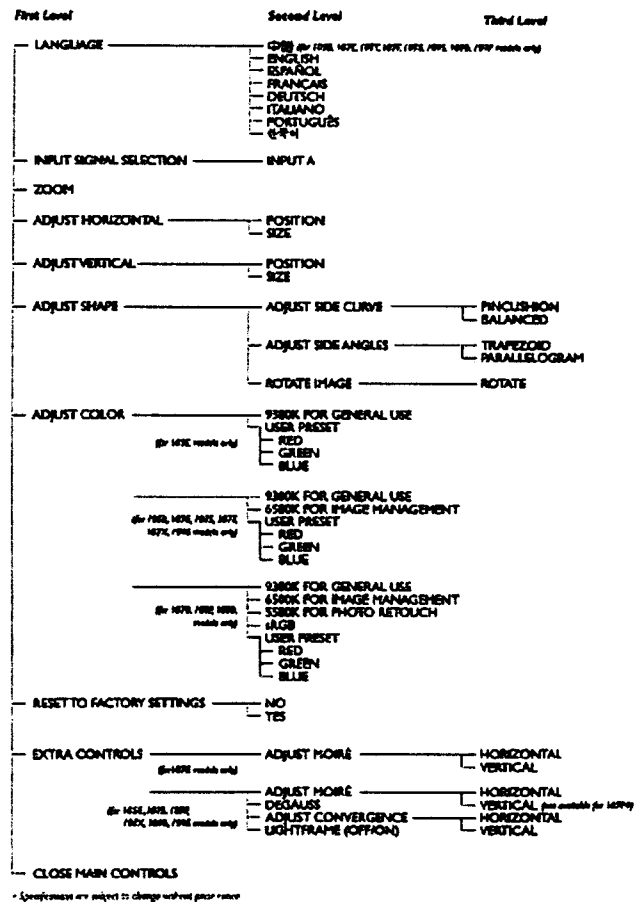


OSD menu tree

The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as reference when you want to later on work your way around the different adjustments.

CRT OSD tree / English



* Specifications are subject to change without prior notice

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The OSD Controls

BRIGHTNESS

To adjust your screen's brightness, follow the steps below. Brightness is the overall intensity of the light coming from the screen. A 50% brightness is recommended.

- 1) Press the button on the monitor. The BRIGHTNESS window appears.



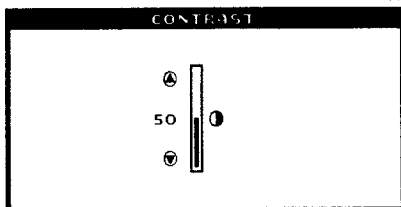
- 2) Press the or button to adjust the brightness.
- 3) When the brightness is adjusted to the level desired, stop pressing the or button and after three seconds the BRIGHTNESS window will disappear with the new adjustment saved.

Smart Help After the BRIGHTNESS window has disappeared, to continue to the CONTRAST window, follow the steps under CONTRAST.

CONTRAST

To adjust your screen's contrast, follow the steps below. Contrast is the difference between the light and dark areas on the screen. A 100% contrast is recommended.

- 1) Press the button on the monitor. The CONTRAST window appears.



- 2) Press the or button to adjust the contrast.
- 3) When the contrast is adjusted to the level desired, stop pressing the or button and after three seconds the CONTRAST window will disappear with the new adjustment saved.

Smart Help After the CONTRAST window has disappeared, to continue to the MAIN CONTROLS, follow the steps under LANGUAGE

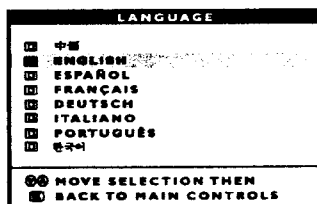
LANGUAGE

The ON SCREEN DISPLAY shows its settings in one of eight languages. The default is English, but you can select French, Spanish, German, Italian, Simplify-Chinese, Korea, Brazilian or Portuguese.

- 1) Press the button on the monitor. The MAIN CONTROLS window appears. LANGUAGE should be highlighted.
- 2) Press the button again. The LANGUAGE window appears.



- 3) Press the or button until the desired language is highlighted.



- 4) Press the button to confirm your selection and return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted...

Smart Help After returning to MAIN CONTROLS...

... to continue to INPUT SIGNAL SELECTION, press the button until INPUT SIGNAL SELECTION is highlighted. Next, follow steps 3 - 5 under INPUT SIGNAL SELECTION.

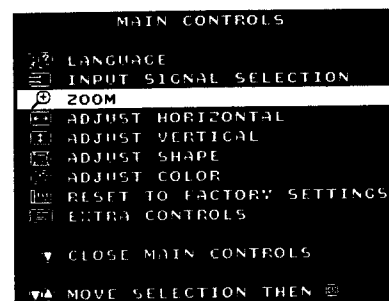
... to exit completely, press the button

Go to cover page

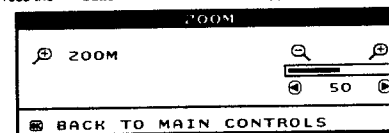
ZOOM

ZOOM increases or decreases the size of the images on your screen. To adjust the ZOOM follow the steps below.

- 1) Press the button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the button until ZOOM is highlighted.



- 3) Press the button. The ZOOM window appears.



- 4) Press the or button to adjust ZOOM.
- 5) Press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...

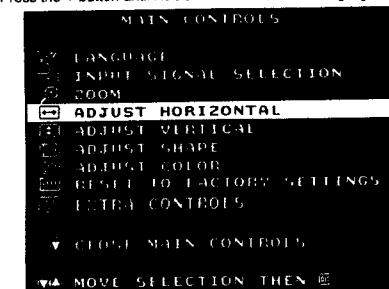
... to continue to ADJUST HORIZONTAL, press the button until ADJUST HORIZONTAL is highlighted. Next, follow steps 3 - 7 under ADJUST HORIZONTAL.

... to exit completely, press the button

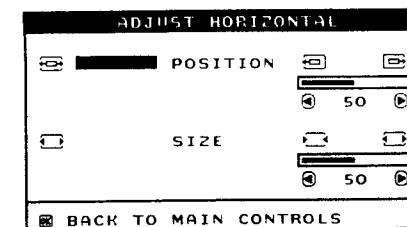
ADJUST HORIZONTAL

ADJUST POSITION under ADJUST HORIZONTAL shifts the image on your screen either to the left or right. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST HORIZONTAL expands or controls the image on your screen, pushing it out toward the left and right sides or pulling it in toward the center.

- 1) Press the button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the button until ADJUST HORIZONTAL is highlighted.

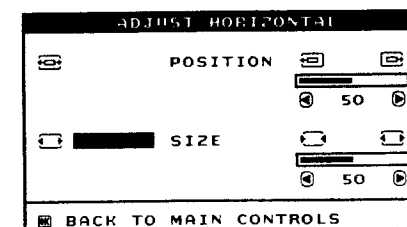


- 3) Press the button. The ADJUST HORIZONTAL window appears. ADJUST POSITION should be highlighted.



- 4) Press the or button to move the image to the left or right.

- 5) When the position is adjusted, press the button to return to MAIN CONTROLS window, or press the button to highlight ADJUST SIZE.



- 6) To adjust the horizontal size, press the or button.

- 7) When the size is adjusted, press the button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...

... to continue to ADJUST VERTICAL, press the button until ADJUST VERTICAL is highlighted. Next, start with step 3 under ADJUST VERTICAL and follow the directions.

... to exit completely, press the button

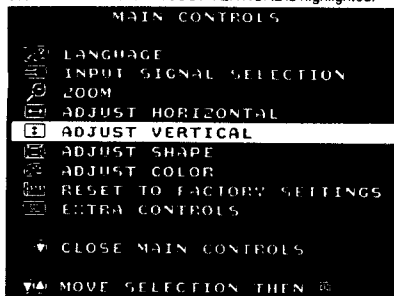
ADJUST VERTICAL

ADJUST POSITION under ADJUST VERTICAL shifts the image on your screen either up or down. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST VERTICAL expands or controls the image on your screen, pushing it out toward the top or bottom or pulling it in toward the center.

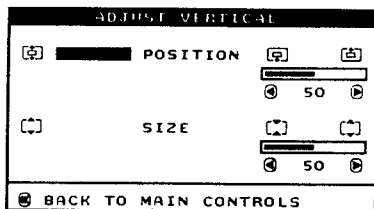
- 1) Press the button on the monitor. The MAIN CONTROLS window appears.

Go to cover page

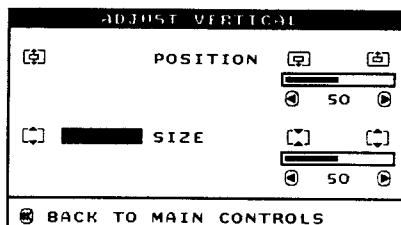
- 2) Press the button until ADJUST VERTICAL is highlighted.



- 3) Press the button. The ADJUST VERTICAL window appears. ADJUST POSITION should be highlighted.



- 4) Press the button to move the image up or down.
- 5) When the position is adjusted, press the button to return to MAIN CONTROLS window, or press the button to highlight ADJUST SIZE.



- 6) To adjust the vertical size, press the or button.

- 7) When the size is adjusted, press the button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...

...to continue to ADJUST SHAPE, press the button until ADJUST SHAPE is highlighted. Next, start with step 3 under ADJUST SHAPE and follow the directions.

...to exit completely, press the button

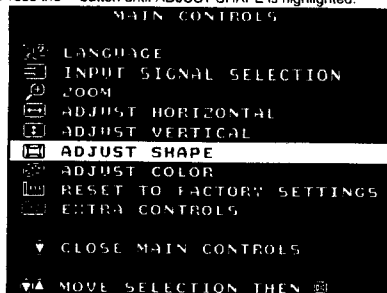
ADJUST SHAPE

ADJUST SIDE CURVE

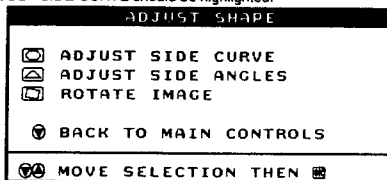
ADJUST SIDE CURVE under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use these features only when the picture is not square.

- 1) Press the button on the monitor. The MAIN CONTROLS window appears.

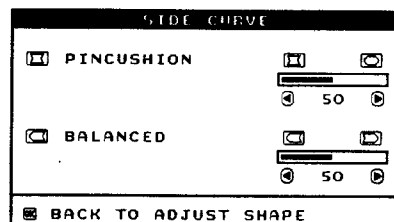
- 2) Press the button until ADJUST SHAPE is highlighted.



- 3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

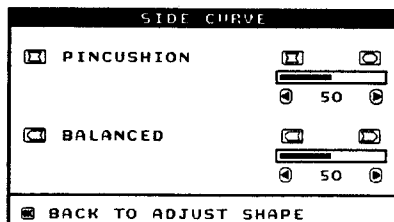


- 4) Press the button. The SIDE CURVE window appears. PINCUSHION should be highlighted.



- 5) To adjust the pincushion, press the or button.

- 6) When the pincushion is adjusted, press the button to highlight BALANCED or press the button to return to the ADJUST SHAPE window.



- 7) To adjust the balanced pincushion, press the or button.

- 8) When the balanced pincushion is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

- 9) Press the button to return to the MAIN CONTROLS window, or press the button until ADJUST SIDE ANGLES is highlighted.

Go to cover page

Smart Help After returning to MAIN CONTROLS...

...to continue to ADJUST SIDE ANGLES, start with step 5 under ADJUST SIDE ANGLES and follow the directions.

...to exit completely, press the button twice.

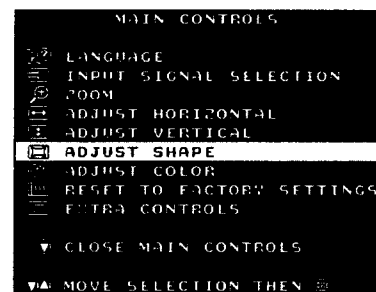
...to adjust only the BALANCED pincushion, follow steps 1 - 4 above, then press the button, and follow steps 7 - 9.

ADJUST SIDE ANGLES

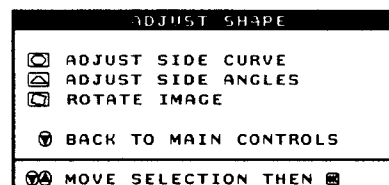
ADJUST SIDE ANGLES under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are TRAPEZOID and PARALLELOGRAM. Note: use these features only when the picture is not square.

- 1) Press the button on the monitor. The MAIN CONTROLS window appears.

- 2) Press the button until ADJUST SHAPE is highlighted.

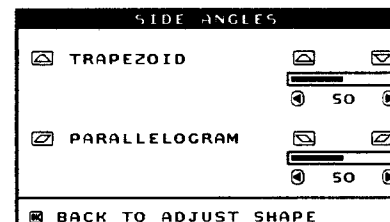


- 3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.



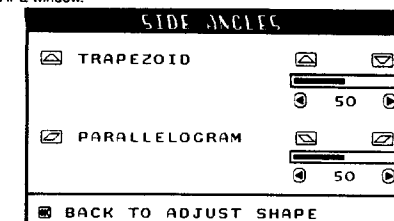
- 4) Press the button to highlight ADJUST SIDE ANGLES.

- 5) Press the button. The SIDE ANGLES window appears. TRAPEZOID should be highlighted.



- 6) To adjust the trapezoid, press the or button.

- 7) When the trapezoid is adjusted, press the button to highlight PARALLELOGRAM or press the button to return to the ADJUST SHAPE window.



- 8) To adjust the parallelogram, press the or button.

- 9) When the parallelogram is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

- 10) Press the button to return to the MAIN CONTROLS window, or press the button until ROTATE IMAGE is highlighted.

Smart Help After returning to MAIN CONTROLS...

...to continue to ROTATE IMAGE, start with step 5 under ROTATE IMAGE and follow the directions.

...to exit completely, press the button twice.

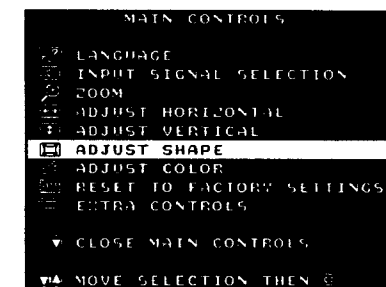
...to adjust only the PARALLELOGRAM, follow steps 1 - 4 above, then press the button, and follow steps 7 - 9

ROTATE IMAGE

ROTATE IMAGE under ADJUST SHAPE allows you to adjust one of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use this feature only when the picture is not square.

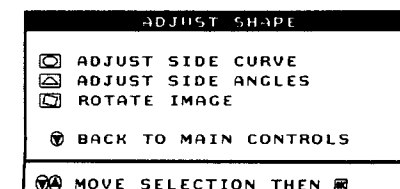
- 1) Press the button on the monitor. The MAIN CONTROLS window appears.

- 2) Press the button until ADJUST SHAPE is highlighted.



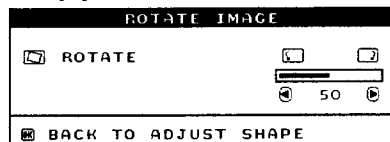
- 3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

- 4) Press the button until ROTATE IMAGE is highlighted.



Go to cover page

5) Press the button. The ROTATE IMAGE window appears. ROTATE should be highlighted.



6) To adjust the rotation, press the - or + button.

7) When the rotation is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN CONTROLS should be highlighted.

8) Press the button to return to MAIN CONTROLS.

Smart Help After returning to MAIN CONTROLS...

... to continue to ADJUST COLOR, press the - button until ADJUST COLOR is highlighted. Next, start with step 3 under ADJUST COLOR and follow the directions.

...to exit completely, press the button twice.

ADJUST COLOR

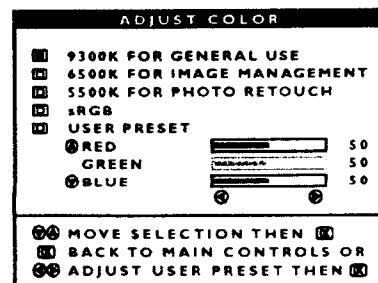
Your monitor has two preset options you can choose from. The first option is for GENERAL USE, which is fine for most applications. The second option is for GAMES, which is for playing computer games. When you select one of these options, the monitor automatically adjusts itself to that option. There is also a third option, USER PRESET, which allows you to adjust the colors on your screen to a setting you desire.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the + button until ADJUST COLOR is highlighted.

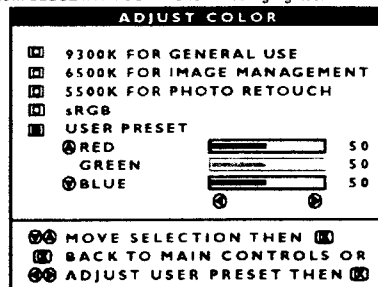


3) Press the button. The ADJUST COLOR window appears.



4) Press the - or + button to highlight 9300K for GENERAL USE, 6500K for GAMES, or USER PRESET.

5) Once you have highlighted GENERAL USE or GAMES, press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.



6a) If USER PRESET is highlighted, press the - button to highlight RED. Next, press the LEFT CURSOR or RIGHT CURSOR button to adjust the color red.

6b) When finished with RED, press the + button to highlight GREEN.

Next, press the - or + button to adjust the color green.

6c) When finished GREEN, press the + button to highlight BLUE.

Next, press the - or + button to adjust the color blue.

6d) When all adjustments are complete, press the button to confirm your adjustments and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...

... to continue to RESET TO FACTORY SETTINGS, press the - button until RESET TO FACTORY SETTINGS is highlighted. Next, start with step 3 under RESET TO FACTORY SETTINGS.

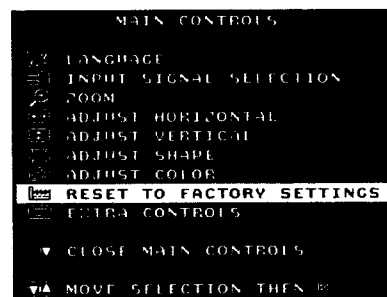
... to exit completely, press the button.

RESET TO FACTORY SETTINGS

RESET TO FACTORY SETTINGS returns everything in all the windows to factory presets.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

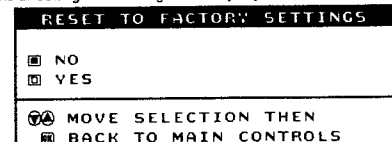
2) Press the + button until RESET TO FACTORY SETTINGS is highlighted.



3) Press the button. The RESET TO FACTORY SETTINGS window appears.

Go to cover page

4) Press the - or + button to select YES or NO. NO is the default. YES returns all settings to their original factory adjustments.



5) Press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS...

... to continue to EXTRA CONTROLS, press the - button until EXTRA CONTROLS is highlighted. Next, start with step 3 under EXTRA CONTROLS.

... to exit completely, press the button.

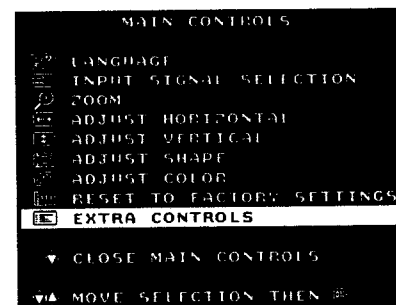
EXTRA CONTROLS

ADJUST MOIRE

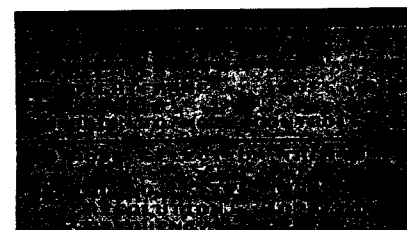
EXTRA CONTROLS is a set of three features, including ADJUST MOIRE. Moire is a fringe pattern arising from the interference between two superimposed line patterns. To adjust your moire, follow the steps below. Note: Use only if necessary. By activating ADJUST MOIRE, sharpness can be affected.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

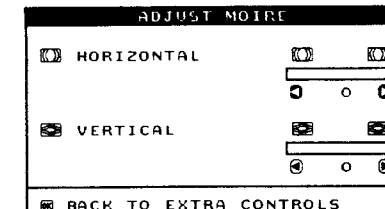
2) Press the DOWN CURSOR button until EXTRA CONTROLS is highlighted.



3) Press the button. The EXTRA CONTROLS window appears. will ADJUST MOIRE will be highlighted.

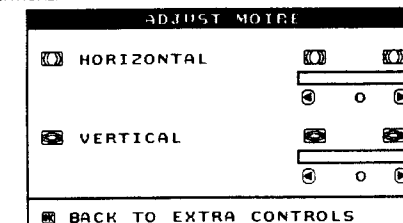


4) Press the button. The ADJUST MOIRE window appears. HORIZONTAL will be highlighted.



5) To adjust the horizontal moire, press the - or + button.

6) When the horizontal moire is adjusted, press the - button to highlight VERTICAL.



7) To adjust the vertical moire, press the - or + button.

8) When the vertical moire is adjusted, press the button to return to the EXTRA CONTROLS window. BACK TO MAIN CONTROLS will be highlighted.



Smart Help After returning to MAIN CONTROLS...

... to continue to DEGAUSS, press the - button until DEGAUSS is highlighted. Next, start with step 3 under EXTRA CONTROLS, DEGAUSS.



... to exit completely, press the button.

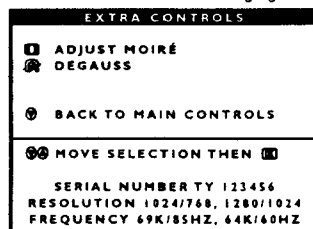
DEGAUSS


EXTRA CONTROLS is a set of three features, including DEGAUSS. Degaussing removes electromagnetic build up that may distort the color on your screen.


- 1) Press the  button on the monitor. The MAIN CONTROLS window appears.
- 2) Press the  button until EXTRA CONTROLS is highlighted.



- 3) Press the  button. The EXTRA CONTROLS window appears. ADJUST MOIRE will be highlighted.
- 4) Press the  button until DEGAUSS is highlighted.



- 5) To degauss your screen, press the  button. Your screen will be degaussed, then the MAIN CONTROLS window will reappear. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS ...
... to exit completely, press the  button.

CLOSE MAIN CONTROLS



Monitor Specific Troubleshooting

Self-Test Feature Check (STFC)

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.

If the monitor is functioning properly, you will see a OSD message as shown in the following illustration:



This box also appears during normal system operation if the video cable becomes disconnected or damaged. This box will remain on for one minute, go off five seconds, then on for one minute, and will repeat cycle.

1. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.
2. While in self-test mode, the LED remains green and the pattern remains on and stationary.

If your monitor screen still remains dark after you use the previous procedure, check your video controller and computer system; your monitor is functioning properly.

NO SIGNAL INPUT


If there is something wrong with the input signal, a message appears on the screen although the power indicator LED is still on. The message may indicate that the monitor is NO SIGNAL INPUT or that you need to check the signal cable.



OSD Lock

OSD lock is a feature which disables the OSD controls. It can be used when the monitor is set up for demonstration purposes or when adjustment of the OSD is not desirable.

Switch on OSD lock feature:


Press and hold the  button continuously for 15 seconds.

Release the button when the message

"CONTROL MENU IS LOCKED" appears.






Switch off OSD lock feature:

Press and hold the  button continuously for 15 seconds or until the message window "CONTROL MENU IS LOCKED" disappears, and "MAIN CONTROLS" appears.







To access factory mode

1. Turn off monitor (don't turn off PC)
2. Press  and  simultaneously on the front control panel, then press . Wait till the OSD menu with characters V30 107T5 V0.48 20021218 (below OSD menu) come on the screen of monitor.



Factory
Mode
Indicator



3. If OSD menu disappears on the screen of monitor, press  again (anytime), then the OSD menu comes on the screen again.
4. Using  : to select OSD menu.
5. Using  : to increase or decrease the setting.
6. Using  : to access/confirm the selection.

To leave factory mode

7. After alignment of factory mode, turn off monitor (if you do not turn off monitor, the OSD menu is always at the factory mode), then turn on monitor again (at this moment, the OSD menu goes back to user mode).

To access BURN IN mode

First of all, monitor displays an image.

1. Disconnect the video cable (interface cable).
2. Turn off monitor
3. Press  and  simultaneously on the front control panel, then the BURN IN mode comes on the screen of monitor as below.

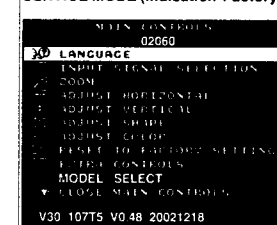
50 seconds around

5 seconds around

repeatedly

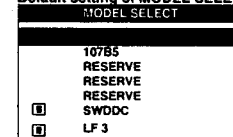
4. Reconnect the video cable, then return to normal image.

SERVICE MODE (Indication-Factory mode)

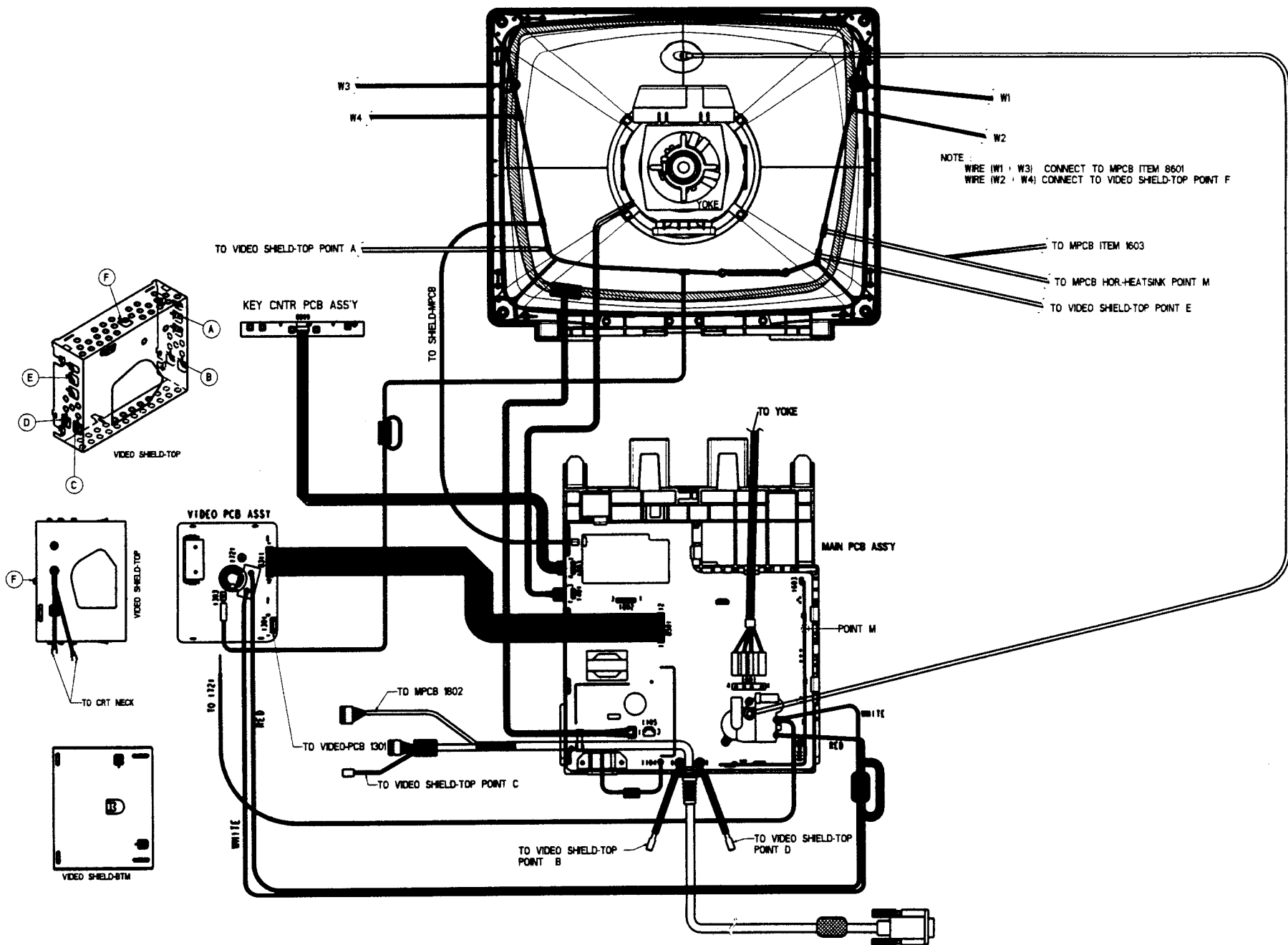


- 02060: stands for
1. using 10 hours already.
 2. turn on/off 10 times.
 3. using several hours + turn on/off monitor.

Default setting of MODEL SELECT (Do not change it.)



Wiring Diagram



Go to cover page

0. General

To be able to perform measurements and repairs on the "circuit boards", these unit should placed in the service position first.

1. Remove the rear cover in Fig. 1.

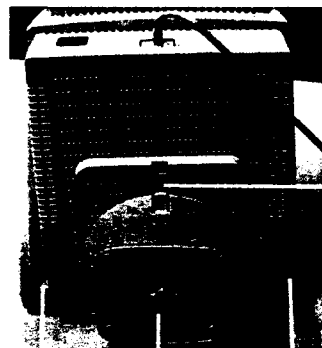
- Remove 2 screws as shown
- Remove back cover as shown
- Remove pedestal as shown

2. Video panel

- Disconnect the wire between metal shield of Video panel and CRT neck as shown in Fig. 2.
- Disconnect the CRT ground from Video panel.
- Remove screw grounding and grounding wire in Fig. 3.

3. Main board connector in Fig. 4

- Disconnect york wire
- Disconnect rotation connector
- Disconnect control board connector
- Remove Screw for fixed I/F cable
- Remove signal connector
- Remove degaussing wire connector

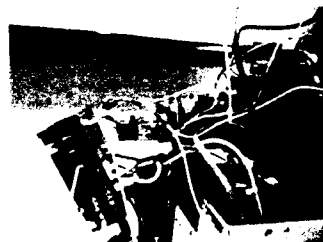


Pedestal ass'y

Screw

Fig. 1

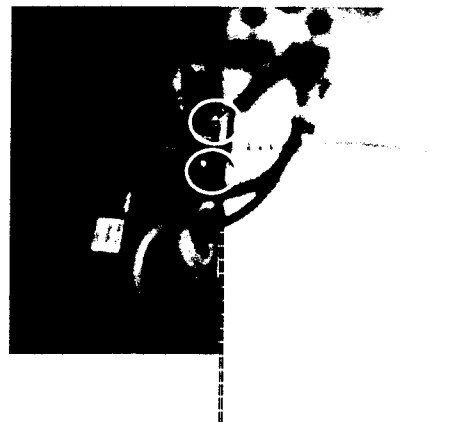
Screw



CRT groudng wirel

Video Panel

Fig. 2



screw - grounding

Fig. 3



Control connector

Rotation connector

Signal connector

Degaussing wire connector

Fig. 4

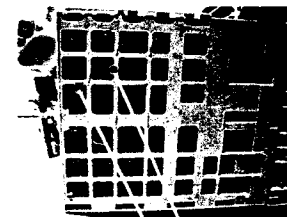
Go to cover page

4. Main panel with Bottom Tray

- Remove 2 screws for disconnect the Bottom tray as Fig. 5
- Pull the bottom tray on press right and left side clip from fig. 6 to fig. 7.

5. SERVICE POSITION

Reconnect connectors, some wires and panels (chassis), service position can be available for DC/AC measurement as shown in Fig. 8.



Screw

Fig. 5

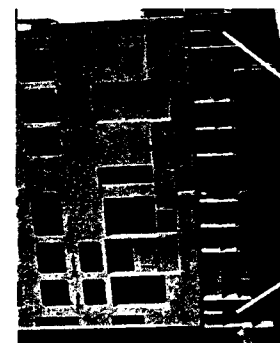


Fig. 6

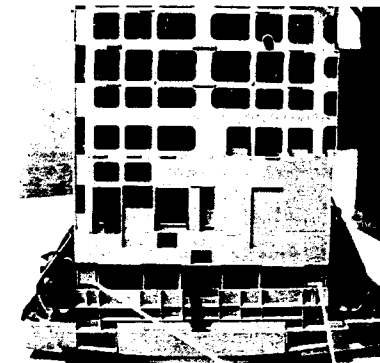


Fig. 7

Pull-up





Video panel

Main panel

Fig. 8 SERVICE POSITION

Press CLIP

Warnings

1. Safety regulations require that the unit should be returned in its original condition and that components identical to the original components are used. The safety components are indicated by the symbol .
2. In order to prevent damage to ICs and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is 0 V (after approximately 30 seconds).
3. **ESD** 
All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten their life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the ground of the unit. Keep components and tools also at this same potential.
4. When repairing a unit, always connect it to the AC Power voltage via an isolating transformer.
5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.
6. It is recommended that safety goggles be worn when replacing the picture tube.
7. When making adjustments, use plastic rather than metal tools. This will prevent any short-circuit or the danger of a circuit becoming unstable.
8. Never replace modules or other components while the unit is switched on.
9. Together with the deflection unit, the picture tube is used as an integrated unit. Adjustment of this unit during repair is not recommended.
10. After repair, the wiring should be fastened in place with the cable clamps.
11. All units that are returned for service or repair must pass the original manufactures safety tests.

Notes

1. The direct voltages and waveforms are average voltages. They have been measured using the Service test software and under the following conditions :
 - Mode : 640 * 480 (31.5kHz / 60Hz)
 - Signal pattern : grey scale
 - Adjust brightness and contrast control for the mechanical mid-position (click position)
2. The picture tube panel has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.
3. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

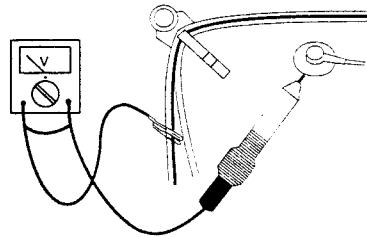


Fig.1

1. General point

=====

- 1.1 During alignment and measurement supply a distortion free AC-mains voltage to the apparatus via an isolating transformer with a low internal resistance.
- 1.2 All voltages have to be measured or applied with respect to ground, unless otherwise stated. Note: Not all heatsinks are grounded, avoid using heatsinks as ground.
- 1.3 The term "Linear RGB" is meant the 0.7 Vpp video with separate SYNC (TTL Level). Reference factory preset mode timings (format of pattern generator CHROMA-2135) are shown in TABLE 1 to TABLE 8. Preload timing TABLE 9 to TABLE 22.
- 1.4 Any external voltage source should have low internal impedance.
- 1.5 The alignment has to be done in room temperature 25 °C.
- 1.6 Digit control buttons for

OSD MENU :

LANGUAGE

ZOOM

ADJUST HORIZONTAL - POSITION

- SIZE

- POSITION

ADJUST VERTICAL

- SIZE

ADJUST SHAPE

- ADJUST SIDE CURVE

- PINCUSHION

- BALANCE

- ADJUST SIDE ANGLES

- TRAPEZOID

- PARALLELOGRAM

- ROTATE IMAGE

ADJUST COLOR

- 3colour temperatures (9300K, 6500K, SRGB)

- 1 user preset independent RGB adjustment

RESET TO FACTORY SETTING

EXTRA CONTROLS

- ADJUST MOIR

- HORIZONTAL

- VERTICAL

- DEGAUSSING

MODEL SELECT

CLOSE MAIN CONTROLS

2. Pre warm-up

=====

- 2.1 Align in pre-warmed condition at least 30 minutes during Manufacturing.
3. **Main chassis alignment**
=====
- 3.1 Power supply adjustment :
All supply voltages were fixed and adjustment is unnecessary. (Check the voltages on Chassis line)
- 3.2 Apply a VGA 31.5KHz/480 lines cross-hatch signal.
- 3.2.1 Adjust BPLUS of factory setting to obtain the anode voltage 25.0KV +/- 1KV at zero beam current.
- 3.3 Monitor the following auxiliary voltages.

+5 source across 7153 Pin out and GND	+5V ± 0.15 VDC
+6 source across C2154	+6.2V ± 0.2 VDC
+12 source across C2155	+12.6V ± 0.4 VDC
-12 source across C2156	-12.5V ± 0.4 VDC
+82 source across C2153	+82.0V ± 1.5 VDC
+190 source across C2152 (+ to Gnd)	+190.5V ± 3.0 VDC
-96 source across C2630	-96V ± 6.0 VDC

4. General conditions for aging and alignment

=====

- 4.1 Aging/burn-in: Use low mains AC supply (90Vac) for monitor first power on test. Pre-adjust the Focus till cross hatch pattern can be clearly visible then enter the aging mode. (Press both Up and Down keys, and then switch-on the monitor with signal cable disconnected.)

- 4.2 During all alignments, supply a distortion free AC mains voltage to the monitor set via an isolating transformer with low internal impedance.
 - 4.3 All measurements are carried out at nominal mains voltage, unless otherwise stated.
 - 4.4 Align in pre-warmed condition, at least 30 minutes warm-up with nominal light output.
 - 4.5 Purity, geometry and subsequent alignments should be carried out in a magnetic cage with correct magnetic field.

Northern Hemisphere: H = 0, V = 450 mG, Z = 0
Southern Hemisphere: H = 0, V = -500 mG, Z = 0
Equatorial Support : H = 0, V = 0 mG, Z = 0
 - 4.6 All voltages are to be measured or applied with respect to ground, unless otherwise stated. Attention : Not all heatsinks are GND, avoid using heatsinks as ground.
 - 4.7 The white balance and purity has to be adjusted in fully lighted room.
 - 4.8 All alignments have to be done in a room with a temperature Of 25 ± 10 °C.
 4. **Alignment of Vg2, cut-off point, white tracking**
=====
 - 5.1 EEPROM data has to be pre-set: according to software approval sheets, sheet-139, sheet-140. (loaded beforehand with average values of mode pre-set data and mode pre-set selection bytes.) The following table is for reference only. Optimum values should be determined by Factory (ME) for every production batch.
- In factory, alignments are done via I²C on the I/F cable DDC bus, but the set can also be manually aligned. Enter factory mode by pressing both Up and Down keys while power-on. Select factory.

Item	CRT	Condition/Description	CPT DAC value	LG DAC value	SDI DAC value
9300/6500/sRGB Bias		Nominal Cut-off setting	127	127	127
9300/6500/sRGB Gain		Nominal Gain setting	185	185	185
sRGB contrast		sRGB contrast	255	255	255
sRGB bright		sRGB brightness	127	127	127
Corner -T, B		Fh < 36KHz	134, 122	134, 126	136, 124
Corner -T, B		36KHz < Fh < 52KHz	134, 122	130, 126	130, 124
Corner -T, B		52KHz < Fh < 65KHz	140, 122	126, 126	130, 124
Corner -T, B		Fh > 65KHz	140, 120	126, 126	128, 124
Pin Correction -T, B		Top/Bottom pin correction	120, 126	122, 122	120, 120
Pin Correction -S, W		S/W shape pin correction	130, 144	136, 130	130, 144
V-offset		V-raster centering	65	60	90
V-gain		V size control range for user	180	180	200
Sub-contrast		9300 peak light output adjust	220	220	220
Sub-brightness		Brightness control range limit	180	160	160
Linearity -H		Fh < 33.00KHz	170	175	180
Linearity -H		33.00KHz < Fh < 36.00KHz	140	140	165
Linearity -H		36.00KHz < Fh < 40.00KHz	125	130	150
Linearity -H		40.00KHz < Fh < 45.00KHz	105	115	115
Linearity -H		45.00KHz < Fh < 52.00KHz	90	95	90
Linearity -H		52.00KHz < Fh < 55.00KHz	80	90	85
Linearity -H		55.00KHz < Fh < 60.50KHz	70	80	80
Linearity -H		60.50KHz < Fh < 66.00KHz	65	75	70
Linearity -H		Fh > 66.00 KHz	60	60	60
Linearity -V		Vertical S-correction	50	50	50
Range-UserH		H size control range for user	75	75	75
Range-Sub		Zoom control range for user	55	55	55
B+		Adjusted for Anode voltage	89	89	89
ABL		9300 full white light o/p adjust	110	120	135
EHT comp -H, V		Fh < 33.00KHz	132, 114	132, 116	132, 114
EHT comp -H, V		33.00KHz < Fh < 36.00KHz	124, 114	130, 114	124, 114
EHT comp -H, V		36.00KHz < Fh < 40.00KHz	122, 116	126, 116	122, 114
EHT comp -H, V		40.00KHz < Fh < 45.00KHz	120, 116	124, 116	120, 116
EHT comp -H, V		45.00KHz < Fh < 52.00KHz	114, 116	118, 118	114, 116
EHT comp -H, V		52.00KHz < Fh < 55.00KHz	112, 116	118, 118	112, 116
EHT comp -H, V		55.00KHz < Fh < 60.50KHz	112, 116	116, 118	112, 116
EHT comp -H, V		60.50KHz < Fh < 66.00KHz	112, 118	114, 118	112, 118
EHT comp -H, V		Fh > 66.00 KHz	114, 118	114, 118	114, 118
V-Linbal		Vertical top/bottom linearity	140	140	140
V-Focus		Vertical focus amplitude	100	100	180
OSD Contrast		OSD Contrast	255	255	255
LF-Brigh		LightFrame Brightness	3	3	3
LF-Sharp		LightFrame Sharpness	3	3	3
Moir setting -H		All modes	0	0	0
Moir setting -V		All modes	0	0	0

- 5.2 External degaussing Remove ferromagnetic measuring equipment, iron tablet, etc., in the neighbourhood of the apparatus within half a meter. Position the set in E-W direction and degauss well via external degaussing coil. Slowly increase the distance between the picture tube and Degaussing coil, keeping the coil in parallel with the Screen of CRT. When the distance is more than 2m, turn off the degaussing current.
- 5.3 Adjustment mode: 68.7KHz/85Hz with correctly adjusted video size 306x230mm. Use color-analyzer (Minolta CA-100) to adjust cut-off and white balance. Before alignment, set initial data as item 5.1 and brightness set to 50%.
- White alignment measurement equipment set-ups:**
- Setup A: 100x100mm white block, 0.7Vpp input video signal, contrast at 0%, 9300 mode Calibrate CA100, Low 9300 RGB=100 x=0.283, y=0.297, Y=0.10FL \pm 0.05FL
- Setup B: 100x100mm white block, 0.7Vpp input video signal, contrast at 100%, 9300 mode Calibrate CA100, High 9300 RGB=100 x=0.283, y=0.297, Y=41FL \pm 1FL
- Setup C: 100x100mm white block, 0.7Vpp input video signal, contrast at 0%, 6500 mode Calibrate CA100, Low 6500 RGB=100 x=0.313, y=0.329, Y=0.10FL \pm 0.05FL
- Setup D: 100x100mm white block, 0.7Vpp input video signal, contrast at 100%, 6500 mode Calibrate CA100, High 6500 RGB=100 x=0.313, y=0.329, Y=36FL \pm 1FL
- Setup E: 100x100mm white block, 0.7Vpp input video signal, contrast at 0%, sRGB mode Calibrate CA100, Low sRGB RGB=100 x=0.313, y=0.329, Y=0.10FL \pm 0.05FL
- Setup F: 100x100mm white block, 0.7Vpp input video signal, contrast at 100%, sRGB mode Calibrate CA100, High sRGB RGB=100 x=0.313, y=0.329, Y=36FL \pm 1FL
- Setup G: Full white (306x230mm), 0.7Vpp input video signal, contrast at 100%, 9300 mode Calibrate CA100, High 9300 RGB=100 x=0.313, y=0.329, Y=30FL \pm 1FL
- Adjustment procedure:**
- 5.3.1 Setup A, manually rotate Vg2 pot-meter on LOT until brightness reaches 100 scale.
- 5.3.2 Setup A, adjust RGB cut-off (I°C) for all colors at 100 7 scale, 9300 mode. (x=0.283, y=0.297, Y=0.10 0.05FL)
- 5.3.3 Setup B, adjust RGB gain (I°C) for all colors at 100 2 scale, 9300 mode. (x=0.283, y=0.297, Y=41 0.5 FL)
- 5.3.4 Repeat 5.3.2, 5.3.3 (RGB cut-off and gain) to get both low and high 9300 scales at 100. (0.10FL 0.05FL for low scale; 41FL 1FL for high scale. x/y tolerance 0.005)
- 5.3.5 Setup C, adjust RGB cut-off (I°C) for all colors at 100 7 scale, 6500 mode. (x=0.313, y=0.329, Y=0.10FL 0.05FL)
- 5.3.6 Setup D, adjust RGB gain (I°C) for all colors at 100 2 scale, 6500 mode. (X=0.313, y=0.329, Y=36FL \pm 1FL)
- 5.3.7 Repeat 5.3.5, 5.3.6 (RGB cut-off and gain) to get both low and high 6500 scales at 100. (0.10FL 0.05FL for low scale; 36FL 1FL for high scale. x/y tolerance 0.005)
- 5.3.8 Setup E, adjust RGB cut-off (I°C) for all colors at 100 7 scale, sRGB mode. (x=0.313, y=0.329, Y=0.10FL 0.05FL)(same values as 6500 mode)
- 5.3.9 Setup F, adjust RGB gain (I°C) for all colors at 100 2 scale, sRGB mode. (x=0.313, y=0.329, Y=36FL \pm 1FL)(same values as 6500 mode)
- 5.3.10 sRGB brightness at 50%. Adjust sRGB contrast (I°C) to get Y=23FL \pm 1FL for full white pattern. (0.10FL 0.05FL for low scale, 23FL 1FL for high scale. x/y tolerance 0.005)
- 5.4 Setup G, adjust ABL (I°C) for 30FL 0.5FL, 9300 mode. The above alignment method may be changed, as long as the final results are the same. (The above method has least amount of adjustment and iteration steps.)
- 6. Adjustment of the picture geometry**
- 6.1 Alignment of primary geometry**

- 6.1.1 Apply Timing 7 (64KHz/60Hz, 1280x1024) with black video signal, set V-position at 50%, set H and V-size for visible raster edges at all sides. (RGB cut-off can be increased temporarily to make raster visible. After adjustment, restore RGB cut-off to original values.) Slide switch 1603 for centered raster in horizontal Direction. Adjust V-offset (I°C) for centered raster in vertical direction. Apply Timing 8 (68.7KHz/85Hz) with crosshatch signal and start geometry alignment.
- 6.1.2 Adjust the Horizontal Size to 306mm.
- 6.1.3 Adjust the Horizontal Position for centered video.
- 6.1.4 Adjust the Vertical Size to 230 mm.
- 6.1.5 Adjust Vertical Position for centered video
- 6.1.6 Adjust picture tilt for correct TOP/BOTTOM lines. (Picture tube should be mounted without tilt w.r.t. cabinet)
- 6.1.7 Adjust pincushion to get optimum vertical line.
- 6.1.8 Adjust trapezoid to get optimum vertical line.
- 6.1.9 Adjust balanced pincushion to get optimum vertical line.
- 6.1.10 Adjust the parallelogram to get optimum vertical line.
- 6.1.11 If needed, adjust the top / bottom corner control to get optimum corner geometry. Top and bottom corner only affect top and bottom 60mm of the vertical lines. (6.1.7, 6.1.8, 6.1.9 and 6.1.10 may need to be readjusted.)
- 6.1.12 Store the adjusted result and exit OSD. (The values for pincushion, trapezoid, balance pincushion and parallelogram can be copied to the other pre-set modes to shorten alignment time.)
- 6.2 Other pre-set mode geometry adjustment**
Use following procedure for all pre-set modes (except 68.7KHz/85Hz) (Timing Table 1 - 8)
- 6.2.1 Adjust the Horizontal Size to 306mm.
- 6.2.2 Adjust the Horizontal Position to center position.
- 6.2.3 Adjust the Vertical Size to 230 mm.
- 6.2.4 Adjust the Vertical Position for correctly centred vertical video.
- 6.2.5 Adjust pincushion to get optimum vertical line.
- 6.2.6 Adjust trapezoid to get optimum vertical line.
- 6.2.7 Adjust balanced pincushion to get optimum vertical line.
- 6.2.8 Adjust the parallelogram to get optimum vertical line. (6.2.5, 6.2.6, 6.2.7 and 6.2.8 may need some iteration.)
- 6.2.9 Store the set result and exit OSD.
- 6.3 Other pre-load modes can be visible inside the bezel.**
- 7 Focus adjustment**
=====
- With full white pattern display at timing 68KHz/85Hz 1024x768, set brightness at 50% and adjust contrast to 25 FL at the center of the screen.
- 8 and adjust H and V focus pot-meters which are located at flyback transformer, until H- and V-line focus is optimal over the entire screen.**
- 8 Adjustment of Moir**
=====
- Apply full white pattern and adjust contrast till luminance around 15FL. 1/3 area with minor moir can be acceptable. If needed, use moir cancellation function and adjust the H- moir or V-moir to cancel the moir defect, then save at factory.
- 9 Loading DDC code**
=====
- The DDC HEX data (refer to sheet-190) should be written into the DDC by EEPROM writer or equivalent method.
- 10 Default settings**
=====
- The finished product should have the following default Settings: Contrast: 100%, Brightness: 50%, Color: 9300, Language: English(Chinese). Power Save: On (Remark : Every mode is independent for reset to factory setting.)

TIMING FOR V30 GS4 107T5 71K MODEL

REFERENCE PATTERN GENERATOR : CHROMA 2135
* According to VESA version 1.0 release 0.6p

1. General

DDC Data Re-programming

In case the main EEPROM with Software DDC which store all factory settings were replaced because a defect, repaired monitor the serial numbers have to be re-programmed.

It is advised to re-soldered the main EEPROM with Software DDC from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information

Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data (EDID) information may be also obtained from VESA.

DDC EDID structure

For the monitor : Standard Version 3.0
Structure Version 1.2

2. System and equipment requirements

1. An i486 (or above) personal computer or compatible.
 2. Microsoft operation system Windows 95/98.
 3. EDID301.EXE program (3138 106 10103) shown as Fig. 1
 4. Software DDC Alignment kits (4822 310 11184) shown as Fig. 2.
- The kit contents: a. Alignment box x1
b. Printer cable x1
c. D-Sub cable x1

Note: The EDID301.EXE (Release Version 1.58, 20000818) is a windows-based program, which cannot be run in MS-DOS.



Figure 1 Diskette with EDID301.EXE

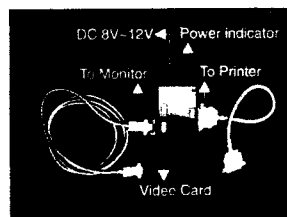
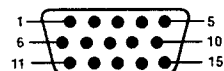


Fig. 2 Alignment Kits

3. Pin assignment

A. 15-pin D-Sub Connector

The 15-pin D-sub connector (male) of the signal cable on the 3rd row for DDC feature :



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	Not connected - no pin
2	Green video input	10	Sync. Ground
3	Blue video input	11	Ground
4	Ground	12	Bi-directional data (SDA)
5	for selftest (PC ground)	13	H.Sync
6	Red video ground	14	V.Sync (VCLK)
7	Green video ground	15	Data clock line (SCL)
8	Blue video ground		

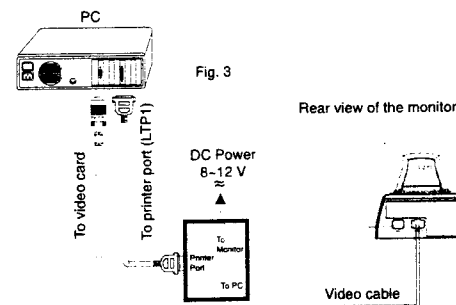
4. Configuration and procedure

There is no Hardware DDC (DDC IC) anymore. Main EEPROM stores all factory settings and DDC data (EDID code) which is so called Software DDC. The following section describes the connection and procedure for Software DDC application. The main EEPROM can be re-programmed by enabling "factory memory data write" function on the DDC program (EDID301.EXE).

*** INITIALIZE ALIGNMENT BOX ***

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before re-programming DDC Data. Following steps show you the procedures and connection.

- Step 1:** Supply 8-12V DC power source to the Alignment box by plugging a DC power cord or using batteries.
- Step 2:** Connecting printer cable and video cable of monitor as shown in Fig.3.



Step 3: Installation of EDID301.EXE

Method 1: Start on DDC program

Start Microsoft Windows.

1. Insert the disk containing EDID301.EXE program into floppy disk drive.
2. Click **Start**, choose Run at start menu of Windows 95/98 as shown in Fig. 4.

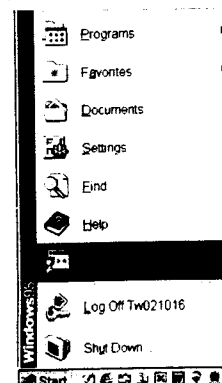


Fig. 4

3. At the submenu, type the letter of your computer's floppy disk drive followed by **EDID301** (for example, **A:\EDID301**).

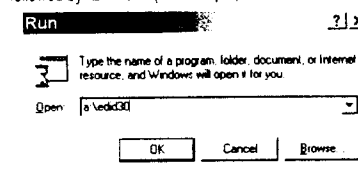


Fig. 5

4. Click OK button. The main menu appears (as shown in Fig. 6). This is for initialize alignment box.

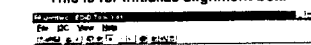


Fig. 6



Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 7) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and fixedly, and the procedure has been performed properly.

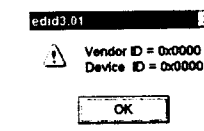


Fig. 7

Method 2: After create a shortcut of EDID301.EXE

Double click EDID301 icon (as shown in Fig. 8) which is on the screen of Windows Wallpaper. Bring up main menu of EDID301 as shown in Fig. 9. This is for initialize alignment box.



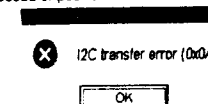
Fig. 8



Fig. 9

Note 2: During the loading, EDID301 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.

1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup windows.
4. Cables loosed or poor contact of connection.



Re-programming EEPROM (Software DDC)

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 10

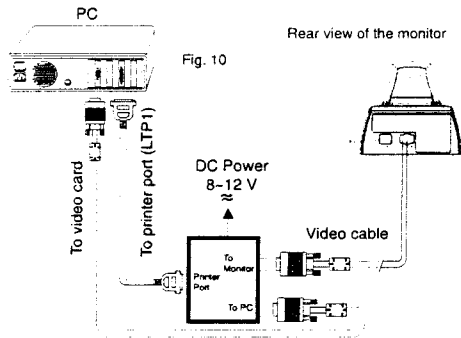


Fig. 10

Step 2: Read DDC data from monitor

- 1-1 Click the left key of Mouse, or hit any key on the keyboard, then the characters disappear from the screen.
- 1-2 Click icon as shown in Fig. 11 from the tool bar to bring up the "Configuration Setup" windows as shown in Fig. 12.



Fig. 11

2. Select the DDC2B as the communication channel. Select "Enable" & fill out "F0" for Mapped EDID page address as shown in Fig. 12.

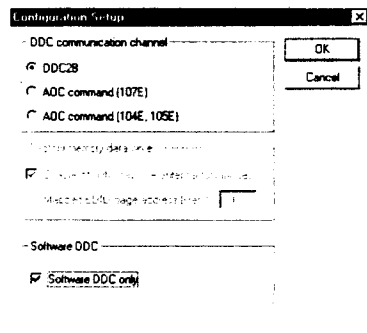


Fig. 12

3. Click OK button to confirm your selection.

4. Click (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 13.

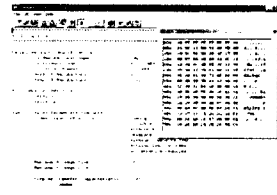


Fig. 13

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 14. EDID301 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

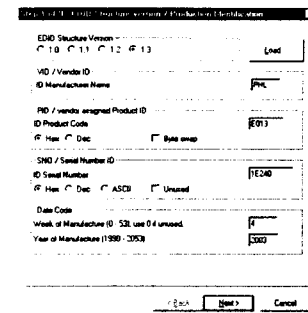


Fig. 14

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next till the Step 7 of 9 window appears as shown in Fig. 15.
2. Fill out the new Serial No. (for example, TY 503960, TY 123456).
3. Click Next till the last step window appears, then click Finish to exit the Step window.

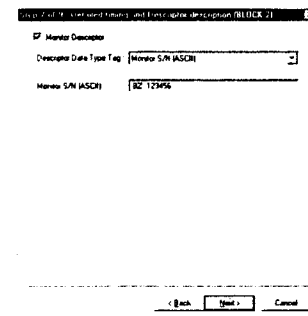
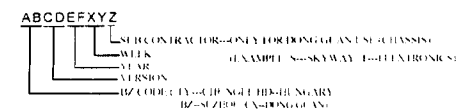


Fig. 15



Step 5: "Configuration Setup & Enter Factory Mode" for "write EDID data"

1. Click icon from the tool bar to bring up the Configuration Setup windows again. Then, select "Software DDC only" as shown in Fig. 16. Click "OK".

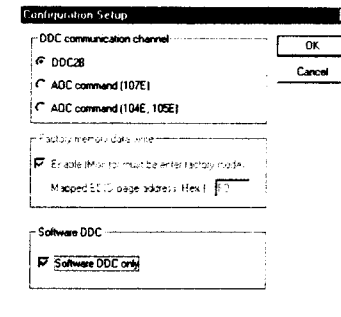
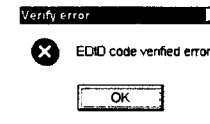


Fig. 16

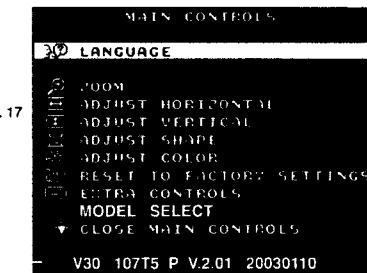
If you do not select "Software DDC only", when you execute "write EDID", it will bring up an error message as below.



To access factory mode

1. Turn off monitor (don't turn off PC)
2. Press " " and " " simultaneously on the front control panel, then press " ", wait till the OSD menu with characters V30 107T5 P V2.01 20030110 (below OSD menu) come on the screen of monitor.

Fig. 17



Factory Mode Indicator

If OSD menu disappears on the screen of monitor, press " " again (anytime), then the OSD menu comes on the screen again.

If you do not access "Factory mode", when you execute "write EDID", it will bring up an error message as below.



Step 6: Write DDC data

1. Click (Write EDID) icon from the tool bar to write DDC data. Bring up "Writing 0%-100%, ready" a progressing bar on the left down corner.
2. Click (Read EDID) to confirm it.

Step 7: Confirm Serial Number in User Mode

1. Press the button to turn off the monitor. Press the button again to turn on the monitor.
2. Press the button to bring up the OSD Main Menu.
3. Press the button to select Extra Controls, press the button to confirm your selection.
4. Confirm the Serial Number "123456" is updated as shown in Fig. 18.

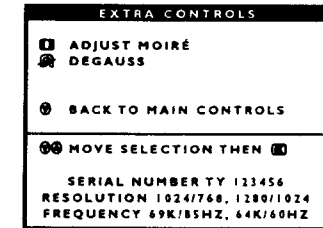


Fig. 18

Step 8: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file->save as") from the tool bar and give a file name as shown in Fig. 19. The file type is EDID301 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc file to re-load it into EEPROM for DDC Data application.

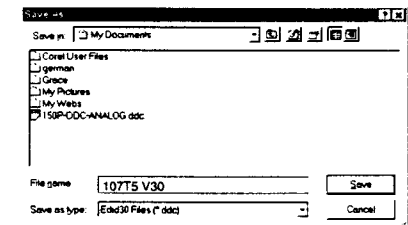




Fig. 19

2. Click Save.

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Step 9: Load DDC data

1. Click  from the tool bar.
2. Select the file you want to open as shown in Fig. 20.
3. Click **Open**.
4. Access "Factory Mode" and enable "Software DDC only" as shown in Fig. 17 & Fig. 16.
5. Write EDID (click ).

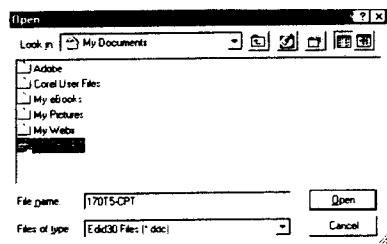


Fig. 20

Note 2 : In Factory Mode: Read/Write DDC data

Before Read/Write EDID code, please confirm that the Software DDC only was enabled as shown in Fig. 23.

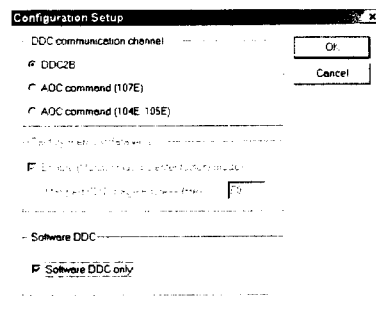


Fig. 23

Step 10: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 21.
(EDID Tool 3.01)

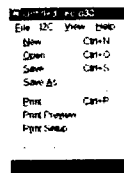


Fig. 21

Note1 : In User Mode: Read DDC data only

Before read EDID code, please confirm that the Software DDC only was disabled as shown in Fig. 22.

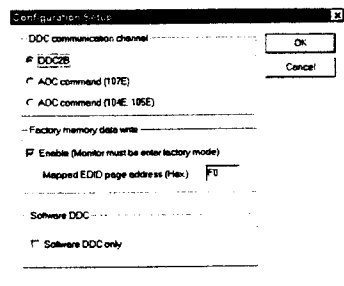
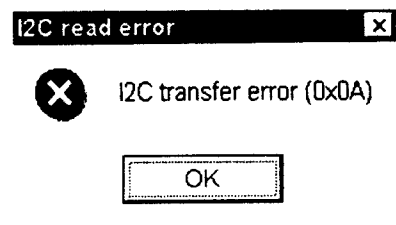


Fig. 22

If you do not disable "Software DDC only", when you execute "read EDID", it will bring up an error message as below.



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EDID log file for CPT tube		Standard Timing Identification #5	
Vendor/Product Identification		Horizontal active pixels : 640	
ID Manufacturer Name	: PHL	Aspect Ratio : 4:3	
ID Product Code	: E013 (HEX.)	Refresh Rate : 100	
ID Serial Number	: 1E240 (HEX.)	Standard Timing Identification #6	
Week of Manufacture	: 4	Horizontal active pixels : 800	
Year of Manufacture	: 2003	Aspect Ratio : 4:3	
EDID Version, Revision		Refresh Rate : 100	
Version	: 1	Standard Timing Identification #7	
Revision	: 3	Horizontal active pixels : 1280	
Basic Display Parameters/Features		Aspect Ratio : 4:3	
Video Input Definition	: Analog Video Input	Refresh Rate : 60	
	: 0.700V/0.000V (0.70Vpp)	Standard Timing Identification #8	
	without Blank-to-Black Setup	Horizontal active pixels : 1152	
	Separate Sync	Aspect Ratio : 4:3	
	without Composite Sync	Refresh Rate : 75	
	without Sync on Green	Detailed Timing #1	
	no Serration required	Pixel Clock (MHz) : 25.18	
Maximum H Image Size	: 31	H Active (pixels) : 640	
Maximum V Image Size	: 23	H Blanking (pixels) : 160	
Display Transfer Characteristic	: 2.86	V Active (lines) : 350	
(gamma)		V Blanking (lines) : 99	
Feature Support (DPMS)	: Standby	H Sync Offset (F Porch) (pixels) : 16	
	Suspend	H Sync Pulse Width (pixels) : 96	
	Active Off	V Sync Offset (F Porch) (lines) : 37	
Display Type	: RGB color display	V Sync Pulse Width (lines) : 2	
Color Characteristics		H Image Size (mm) : 306	
Red X coordinate	: 0.631	V Image Size (mm) : 230	
Red Y coordinate	: 0.329	H Border (pixels) : 0	
Green X coordinate	: 0.276	V Border (lines) : 0	
Green Y coordinate	: 0.6	Flags : Non-interlaced	
Blue X coordinate	: 0.143		
Blue Y coordinate	: 0.057		
White X coordinate	: 0.283		
White Y coordinate	: 0.297		
Established Timings		Monitor Descriptor #2	
Established Timings I	: 720 x 400 @70Hz (IBM,VGA)	Serial Number : BZ 123456	
	: 640 x 480 @60Hz (IBM,VGA)	Monitor Descriptor #3	
	: 640 x 480 @72Hz (VESA)	Monitor Name : PHILIPS 107T5	
	: 640 x 480 @75Hz (VESA)	Monitor Descriptor #4	
	: 800 x 600 @60Hz (VESA)	Monitor Range Limits	
Established Timings II	: 800 x 600 @72Hz (VESA)	Min. Vt rate Hz : 50	
	: 800 x 600 @75Hz (VESA)	Max. Vt rate Hz : 160	
	: 832 x 624 @75Hz (Apple,Mac II)	Min. Horiz. rate kHz : 30	
	: 1024 x 768 @60Hz (VESA)	Max. Horiz. rate kHz : 71	
	: 1024 x 768 @70Hz (VESA)	Max. Supported Pixel : 110	
	: 1024 x 768 @75Hz (VESA)	No secondary GTF timing formula supported.	
Manufacturer's timings		Extension Flag : 0	
Standard Timing Identification #1		Check sum : 7D (HEX.)	
Horizontal active pixels	: 640	EDID data (128 bytes)	
Aspect Ratio	: 4:3	0: 00 1: ff 2: ff 3: ff 4: ff 5: ff 6: ff 7: 00	
Refresh Rate	: 85	8: 41 9: 0c 10: 13 11: e0 12: 40 13: e2 14: 01 15: 00	
Standard Timing Identification #2		16: 04 17: 0d 18: 01 19: 03 20: 68 21: 1f 22: 17 23: ba	
Horizontal active pixels	: 800	24: e8 25: 9e 26: a8 27: a1 28: 54 29: 46 30: 99 31: 24	
Aspect Ratio	: 4:3	32: 0e 33: 48 34: 4c 35: ad 36: ee 37: 00 38: 31 39: 59	
Refresh Rate	: 85	40: 45 41: 59 42: 61 43: 59 44: 81 45: 80 46: 31 47: 68	
Standard Timing Identification #3		48: 45 49: 68 50: 81 51: 40 52: 71 53: 4f 54: d6 55: 09	
Horizontal active pixels	: 1024	56: 80 57: a0 58: 20 59: 5e 60: 63 61: 10 62: 10 63: 60	
Aspect Ratio	: 4:3	64: 52 65: 08 66: 32 67: e6 68: 10 69: 00 70: 00 71: 1a	
Refresh Rate	: 85	72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 42 79: 5a	
Standard Timing Identification #4		80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36	
Horizontal active pixels	: 1280	88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50	
Aspect Ratio	: 5:4	96: 48 97: 49 98: 4c 99: 49 100: 50 101: 53 102: 20 103: 31	
Refresh Rate	: 60	104: 30 105: 37 106: 54 107: 35 108: 00 109: 00 110: 00 111: fd	
		112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0b 118: 00 119: 0a	
		120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 74	

Hex Data of DDC2B

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..... EDID log file for LG tube		Standard Timing Identification #5 Horizontal active pixels : 640 Aspect Ratio : 4:3 Refresh Rate : 100	
Vendor/Product Identification ID Manufacturer Name : PHL ID Product Code : E013 (HEX.) ID Serial Number : 1E240 (HEX.) Week of Manufacture : 4 Year of Manufacture : 2003		Standard Timing Identification #6 Horizontal active pixels : 800 Aspect Ratio : 4:3 Refresh Rate : 100	
EDID Version, Revision Version : 1 Revision : 3		Standard Timing Identification #7 Horizontal active pixels : 1280 Aspect Ratio : 4:3 Refresh Rate : 60	
Basic Display Parameters/Features Video Input Definition : Analog Video Input 0.700V/0.000V (0.70Vpp) without Blank-to-Black Setup Separate Sync without Composite Sync without Sync on Green no Serration required		Standard Timing Identification #8 Horizontal active pixels : 1152 Aspect Ratio : 4:3 Refresh Rate : 75	
Maximum H Image Size : 31 Maximum V Image Size : 23		Detailed Timing #1 Pixel Clock (MHz) : 25.18 H Active (pixels) : 640 H Blanking (pixels) : 160 V Active (lines) : 350 V Blanking (lines) : 99 H Sync Offset (F Porch) (pixels) : 16 H Sync Pulse Width (pixels) : 96 V Sync Offset (F Porch) (lines) : 37 V Sync Pulse Width (lines) : 2	
Display Transfer Characteristic (gamma) : 2.83		H Image Size (mm) : 306 V Image Size (mm) : 230 H Border (pixels) : 0 V Border (lines) : 0 Flags : Non-interlaced Normal Display, No stereo Digital Separate sync. Negative Vertical Sync. Positive Horizontal Sync.	
Feature Support (DPMS) : Standby Suspend Active Off		Monitor Descriptor #2 Serial Number : BZ 123456	
Display Type : RGB color display		Monitor Descriptor #3 Monitor Name : PHILIPS 107T5	
Color Characteristics Red X coordinate : 0.636 Red Y coordinate : 0.327 Green X coordinate : 0.278 Green Y coordinate : 0.6 Blue X coordinate : 0.145 Blue Y coordinate : 0.064 White X coordinate : 0.283 White Y coordinate : 0.297		Monitor Descriptor #4 Monitor Range Limits Min. Vt rate Hz : 50 Max. Vt rate Hz : 160 Min. Horiz. rate kHz : 30 Max. Horiz. rate kHz : 71 Max. Supported Pixel : 110	
Established Timings Established Timings I : 720 x 400 @70Hz (IBM,VGA) 640 x 480 @60Hz (IBM,VGA) 640 x 480 @72Hz (VESA) 640 x 480 @75Hz (VESA) 800 x 600 @60Hz (VESA) Established Timings II : 800 x 600 @72Hz (VESA) 800 x 600 @75Hz (VESA) 832 x 624 @75Hz (Apple,Mac II) 1024 x 768 @60Hz (VESA) 1024 x 768 @70Hz (VESA) 1024 x 768 @75Hz (VESA)		No secondary GTF timing formula supported.	
Manufacturer's timings : Standard Timing Identification #1 Horizontal active pixels : 640 Aspect Ratio : 4:3 Refresh Rate : 85		Extension Flag : 0 Check sum : 9B (HEX.) EDID data (128 bytes) for LG tube	
Standard Timing Identification #2 Horizontal active pixels : 800 Aspect Ratio : 4:3 Refresh Rate : 85		0:00 1:f 2:f 3:f 4:f 5:f 6:f 7:00 8:41 9:0c 10:13 11:e0 12:40 13:e2 14:01 15:00 16:04 17:0d 18:01 19:03 20:68 21:11 22:17 23:b7 24:e8 25:16 26:28 27:a2 28:53 29:47 30:99 31:25 32:10 33:48 34:4c 35:a0 36:ee 37:00 38:31 39:59 40:45 41:59 42:61 43:59 44:81 45:80 46:31 47:68 48:45 49:68 50:81 51:40 52:71 53:4f 54:d6 55:09 56:80 57:a0 58:20 59:5e 60:63 61:10 62:10 63:60 64:52 65:08 66:32 67:e6 68:10 69:00 70:00 71:1a 72:00 73:00 74:00 75:1f 76:00 77:20 78:42 79:5a 80:20 81:20 82:31 83:32 84:33 85:34 86:35 87:36 88:0a 89:20 90:00 91:00 92:00 93:fc 94:00 95:50 96:48 97:49 98:4c 99:49 100:50 101:53 102:20 103:31 104:30 105:37 106:54 107:35 108:00 109:00 110:00 111:fd 112:00 113:32 114:a0 115:1e 116:47 117:0b 118:00 119:0a 120:20 121:20 122:20 123:20 124:20 125:20 126:00 127:9b	
Standard Timing Identification #3 Horizontal active pixels : 1024 Aspect Ratio : 4:3 Refresh Rate : 85		Standard Timing Identification #4 Horizontal active pixels : 1280 Aspect Ratio : 5:4 Refresh Rate : 60	

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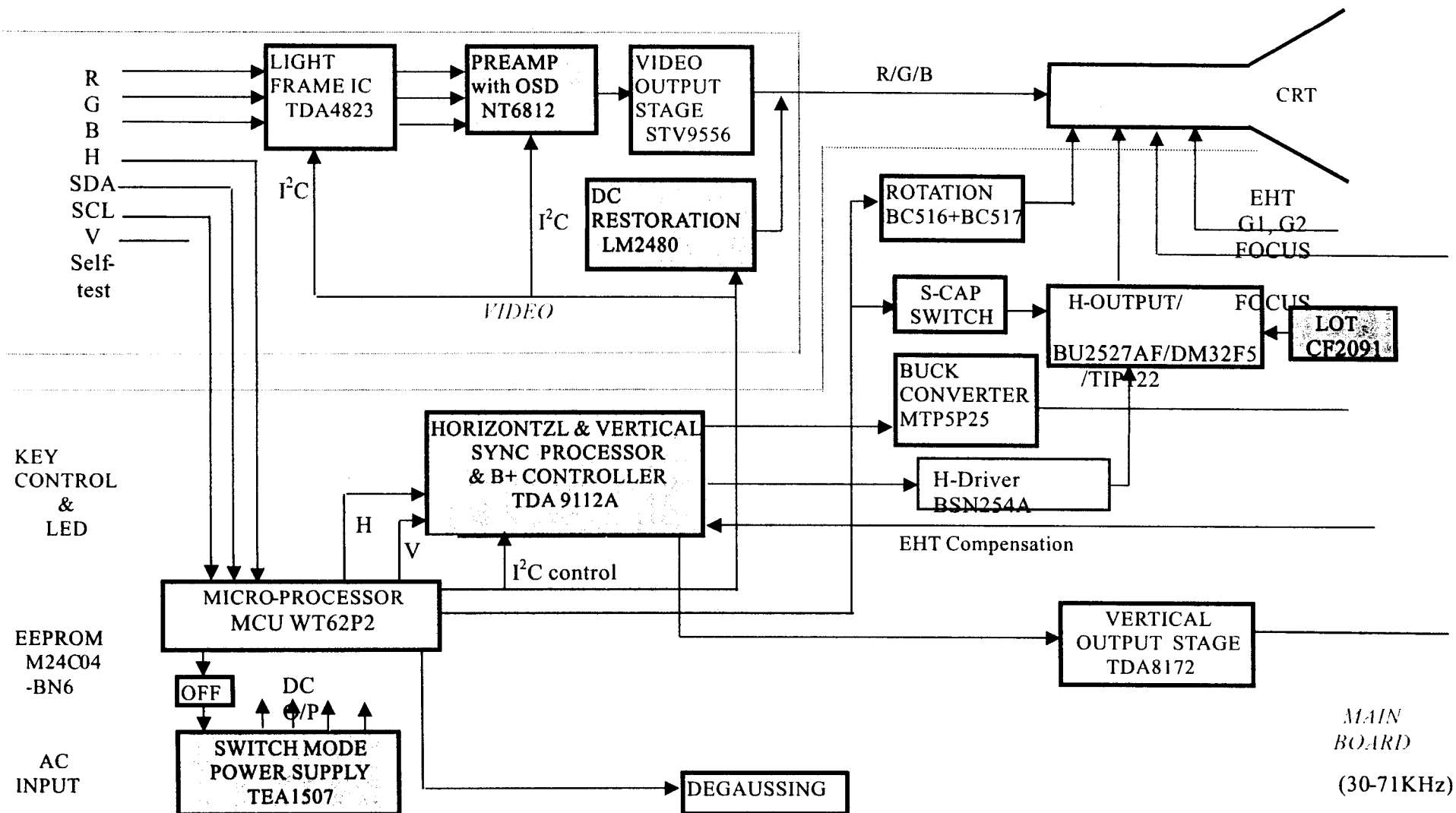
..... EDID log file for SDI tube		Standard Timing Identification #5 Horizontal active pixels : 640 Aspect Ratio : 4:3 Refresh Rate : 100	
Vendor/Product Identification ID Manufacturer Name : PHL ID Product Code : E013 (HEX.) ID Serial Number : 1E240 (HEX.) Week of Manufacture : 4 Year of Manufacture : 2003		Standard Timing Identification #6 Horizontal active pixels : 800 Aspect Ratio : 4:3 Refresh Rate : 100	
EDID Version, Revision Version : 1 Revision : 3		Standard Timing Identification #7 Horizontal active pixels : 1280 Aspect Ratio : 4:3 Refresh Rate : 60	
Basic Display Parameters/Features Video Input Definition : Analog Video Input 0.700V/0.000V (0.70Vpp) without Blank-to-Black Setup Separate Sync without Composite Sync without Sync on Green no Serration required		Standard Timing Identification #8 Horizontal active pixels : 1152 Aspect Ratio : 4:3 Refresh Rate : 75	
Maximum H Image Size : 31 Maximum V Image Size : 23		Detailed Timing #1 Pixel Clock (MHz) : 25.18 H Active (pixels) : 640 H Blanking (pixels) : 160 V Active (lines) : 350 V Blanking (lines) : 99 H Sync Offset (F Porch) (pixels) : 16 H Sync Pulse Width (pixels) : 96 V Sync Offset (F Porch) (lines) : 37 V Sync Pulse Width (lines) : 2	
Display Transfer Characteristic (gamma) : 2.9		H Image Size (mm) : 306 V Image Size (mm) : 230 H Border (pixels) : 0 V Border (lines) : 0 Flags : Non-interlaced Normal Display, No stereo Digital Separate sync. Negative Vertical Sync. Positive Horizontal Sync.	
Feature Support (DPMS) : Standby Suspend Active Off		Monitor Descriptor #2 Serial Number : BZ 123456	
Display Type : RGB color display		Monitor Descriptor #3 Monitor Name : PHILIPS 107T5	
Color Characteristics Red X coordinate : 0.645 Red Y coordinate : 0.316 Green X coordinate : 0.265 Green Y coordinate : 0.606 Blue X coordinate : 0.143 Blue Y coordinate : 0.058 White X coordinate : 0.283 White Y coordinate : 0.297		Monitor Descriptor #4 Monitor Range Limits Min. Vt rate Hz : 50 Max. Vt rate Hz : 160 Min. Horiz. rate kHz : 30 Max. Horiz. rate kHz : 71 Max. Supported Pixel : 110	
Established Timings Established Timings I : 720 x 400 @70Hz (IBM,VGA) 640 x 480 @60Hz (IBM,VGA) 640 x 480 @72Hz (VESA) 640 x 480 @75Hz (VESA) 800 x 600 @60Hz (VESA) Established Timings II : 800 x 600 @72Hz (VESA) 800 x 600 @75Hz (VESA) 832 x 624 @75Hz (Apple,Mac II) 1024 x 768 @60Hz (VESA) 1024 x 768 @70Hz (VESA) 1024 x 768 @75Hz (VESA)		No secondary GTF timing formula supported.	
Manufacturer's timings : Standard Timing Identification #1 Horizontal active pixels : 640 Aspect Ratio : 4:3 Refresh Rate : 85		Extension Flag : 0 Check sum : F1 (HEX.) EDID data (128 bytes) for SDI tube	
Standard Timing Identification #2 Horizontal active pixels : 800 Aspect Ratio : 4:3 Refresh Rate : 85		0:00 1:f 2:f 3:f 4:f 5:f 6:f 7:00 8:41 9:0c 10:13 11:e0 12:40 13:e2 14:01 15:00 16:04 17:0d 18:01 19:03 20:68 21:11 22:17 23:b7 24:e8 25:16 26:28 27:a2 28:53 29:47 30:99 31:25 32:10 33:48 34:4c 35:a0 36:ee 37:00 38:31 39:59 40:45 41:59 42:61 43:59 44:81 45:80 46:31 47:68 48:45 49:68 50:81 51:40 52:71 53:4f 54:d6 55:09 56:80 57:a0 58:20 59:5e 60:63 61:10 62:10 63:60 64:52 65:08 66:32 67:e6 68:10 69:00 70:00 71:1a 72:00 73:00 74:00 75:1f 76:00 77:20 78:42 79:5a 80:20 81:20 82:31 83:32 84:33 85:34 86:35 87:36 88:0a 89:20 90:00 91:00 92:00 93:fc 94:00 95:50 96:48 97:49 98:4c 99:49 100:50 101:53 102:20 103:31 104:30 105:37 106:54 107:35 108:00 109:00 110:00 111:fd 112:00 113:32 114:a0 115:1e 116:47 117:0b 118:00 119:0a 120:20 121:20 122:20 123:20 124:20 125:20 126:00 127:9b	
Standard Timing Identification #3 Horizontal active pixels : 1024 Aspect Ratio : 4:3 Refresh Rate : 85		Standard Timing Identification #4 Horizontal active pixels : 1280 Aspect Ratio : 5:4 Refresh Rate : 60	

Function Block of V30 107T5

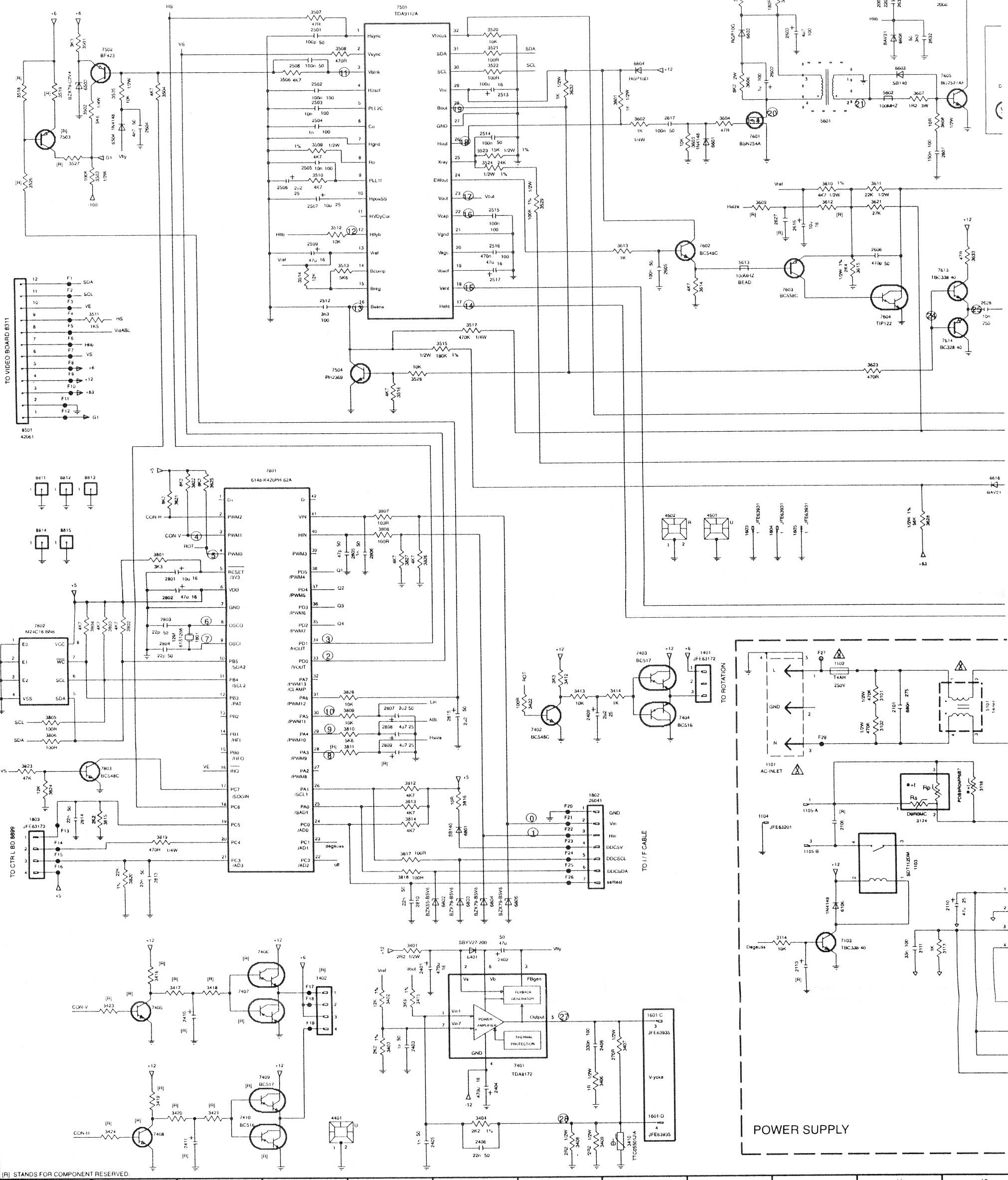
107T5

29

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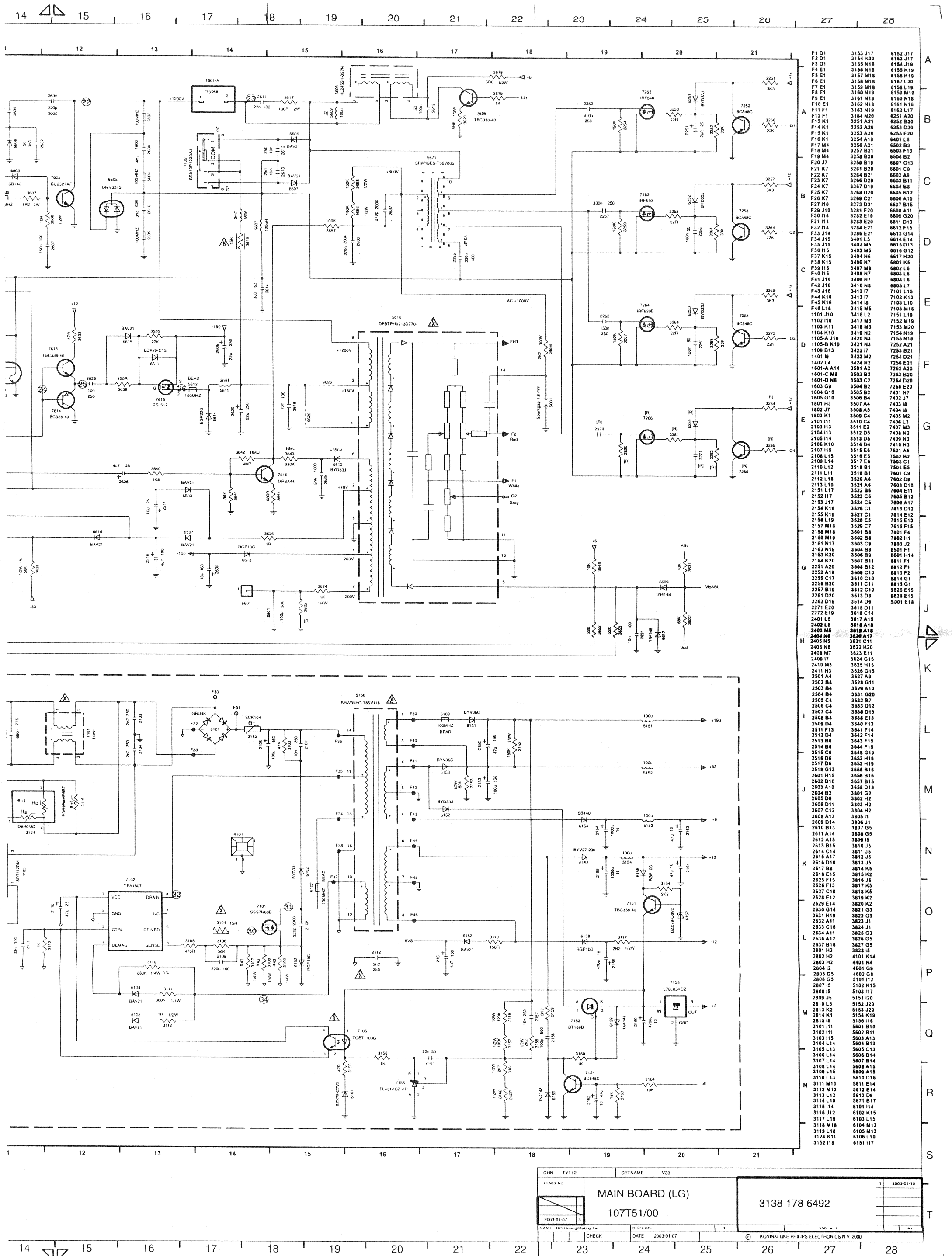


MAIN PCB
SB: 57251x1
PB: 57271



V30-107T5 CRT Deviation list

REF.	LG Tube	SDI Tube	CPT Tube
2252	910N 250V MPS	820N 250V MPS	820N 250V MPS
2255	330N 400V MPFA	300N 400V MPFA	300N 400V MPFA
2633	270P 2K V XTH	330P 2K V XTH	330P 2K V XTH
2637	270P 2K V XTH	330P 2K V XTH	330P 2K V XTH
3408	2R2 1/2W	2R2 1/2W	2R4 1/2W
3409	2R2 1/2W	2R2 1/2W	2R4 1/2W

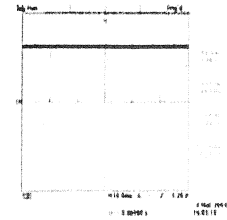


F1 D1	3153 J17	6152 J17
F2 D1	3154 K19	6153 J17
F3 D1	3155 N16	6154 J19
F4 E1	3156 N16	6155 K19
F5 E1	3157 M18	6156 K19
F6 E1	3158 M18	6157 L20
F7 E1	3159 M18	6158 L19
F8 E1	3160 N19	6159 M19
F9 E1	3161 N18	6160 N18
F10 E1	3162 N18	6161 M16
F11 F1	3163 M19	6162 L17
F12 F1	3164 N20	6251 A20
F13 K1	3251 A21	6252 B20
F14 K1	3252 A20	6253 D20
F15 K1	3253 A20	6255 E20
F16 K1	3254 A19	6401 L6
F17 M4	3256 A21	6502 B2
F18 M4	3257 B21	6503 F13
F19 M4	3258 B20	6504 B2
F20 J7	3259 B18	6507 G13
F21 K7	3261 B21	6601 C9
F22 K7	3264 B21	6602 A9
F23 K7	3266 D20	6603 B11
F24 K7	3267 D19	6604 B8
F25 K7	3268 D20	6605 B2
F26 K7	3269 C21	6606 A15
F27 I10	3272 D21	6607 B15
F28 J10	3281 E20	6608 A11
F29 I14	3282 E19	6609 G20
F30 I14	3283 E20	6610 D13
F31 I14	3284 E21	6612 F15
F32 I14	3286 E21	6613 G14
F33 J14	3401 L5	6614 E14
F34 J15	3402 M5	6615 D13
F35 I15	3403 M5	6616 G12
F36 I15	3404 M6	6617 H20
F37 K15	3406 N7	6801 K6
F38 K15	3407 M8	6802 L6
F39 I16	3408 N7	6803 L6
F40 I16	3409 N7	6804 L6
F41 J16	3410 N8	6805 L7
F42 J16	3412 I7	7101 L15
F43 J16	3413 I7	7102 K13
F44 K16	3414 I8	7103 L10
F45 K16	3415 M5	7105 M16
F46 L16	3416 L2	7151 L19
I101 J10	3417 M3	7152 M19
I102 I10	3418 M2	7153 M20
I103 K11	3419 M2	7154 M20
I104 K10	3420 N3	7155 B16
I105-A J10	3421 N3	7252 A21
I106 B13	3422 I7	7253 B21
I107 I10	3423 M2	7254 D21
I108 I10	3424 M2	7255 E21
I109 I10	3501 A2	7262 A20
I110-A A14	3502 B2	7263 B20
I111-C M8	3503 C2	7264 D20
I112-D M8	3504 B2	7265 E20
I113 G10	3505 B2	7401 N7
I114 G10	3506 B4	7402 J7
I115 H3	3507 A4	7403 I8
I116 H3	3508 A5	7404 I8
I117 H3	3509 C4	7405 M2
I118 H3	3510 C4	7406 L3
I119 H3	3511 E2	7407 M3
I120 H3	3512 D5	7408 N2
I121 H3	3513 D5	7409 N3
I122 H3	3514 D4	7410 N3
I123 H3	3515 E8	7501 A5
I124 H3	3516 E5	7502 B2
I125 H3	3517 E5	7503 C1
I126 H3	3518 B1	7504 E5
I127 H3	3519 B1	7601 C9
I128 H3	3520 A6	7602 D9
I129 H3	3521 A6	7603 D10
I130 H3	3522 B2	7604 E11
I131 H3	3523 C6	7605 B12
I132 H3	3524 C6	7606 A17
I133 H3	3525 C1	7613 D12
I134 H3	3526 C1	7614 E12
I135 H3	3527 C1	7615 E13
I136 H3	3528 C7	7616 F15
I137 H3	3601 B8	7801 F4
I138 H3	3602 B8	7802 H1
I139 H3	3603 C9	7803 J2
I140 H3	3604 B8	7804 H1
I141 H3	3605 B9	8601 H14
I142 H3	3606 B11	8611 F1
I143 H3	3607 B12	8612 F1
I144 H3	3608 B12	8613 F1
I145 H3	3609 C10	8614 G1
I146 H3	3610 C10	8615 G1
I147 H3	3611 C10	8616 G1
I148 H3	3612 C10	8617 G1
I149 H3	3613 C10	8618 G1
I150 H3	3614 C10	8619 G1
I151 H3	3615 C10	8620 G1
I152 H3	3616 C10	8621 G1
I153 H3	3617 C10	8622 G1
I154 H3	3618 C10	8623 G1
I155 H3	3619 C10	8624 G1
I156 H3	3620 C10	8625 G1
I157 H3	3621 C10	8626 G1
I158 H3	3622 C10	8627 G1
I159 H3	3623 C10	8628 G1
I160 H3	3624 C10	8629 G1
I161 H3	3625 C10	8630 G1
I162 H3	3626 C10	8631 G1
I163 H3	3627 C10	8632 G1
I164 H3	3628 C10	8633 G1
I165 H3	3629 C10	8634 G1
I166 H3	3630 C10	8635 G1
I167 H3	3631 C10	8636 G1
I168 H3	3632 C10	8637 G1
I169 H3	3633 C10	8638 G1
I170 H3	3634 C10	8639 G1
I171 H3	3635 C10	8640 G1
I172 H3	3636 C10	8641 G1
I173 H3	3637 C10	8642 G1
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I176 H3	3640 C10	8645 G1
I177 H3	3641 C10	8646 G1
I178 H3	3642 C10	8647 G1
I179 H3	3643 C10	8648 G1
I180 H3	3644 C10	8649 G1
I181 H3	3645 C10	8650 G1
I182 H3	3646 C10	8651 G1
I183 H3	3647 C10	8652 G1
I184 H3	3648 C10	8653 G1
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I186 H3	3650 C10	8655 G1
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I190 H3	3654 C10	8659 G1
I191 H3	3655 C10	8660 G1
I192 H3	3656 C10	8661 G1
I193 H3	3657 C10	8662 G1
I194 H3	3658 C10	8663 G1
I195 H3	3659 C10	8664 G1
I196 H3	3660 C10	8665 G1
I197 H3	3661 C10	8666 G1
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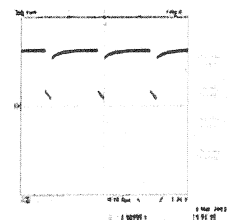
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CLASS NO			
MAIN BOARD (LG)		3138 178 6492	
107T51/00			
NAME	KC Huang/Thuy Tai	SUPERS	1
CHECK		DATE	2003-01-07
		KONINKRIJKE PHILIPS ELECTRONICS N.V. 2000	

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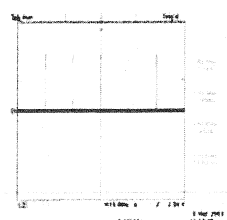
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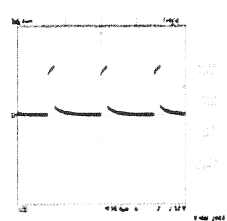
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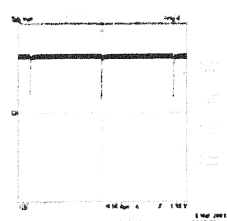
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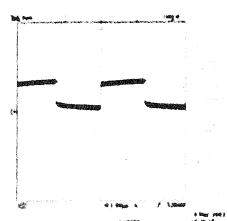
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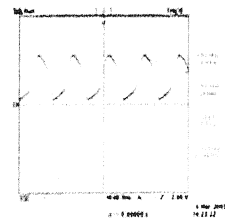
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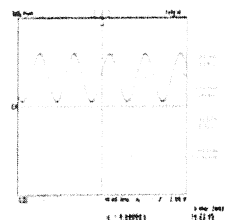
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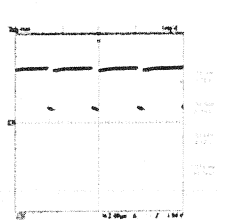
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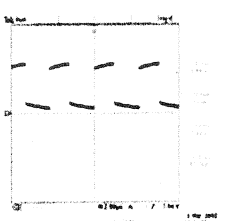
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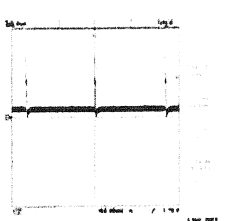
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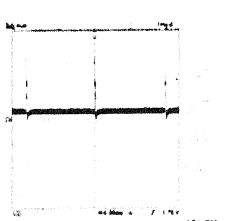
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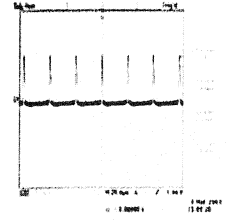
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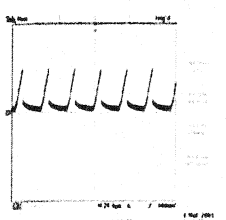
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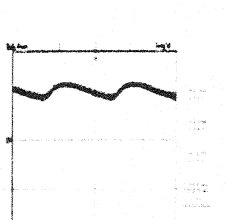
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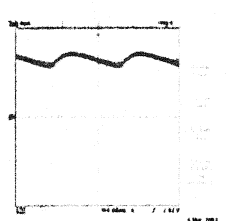
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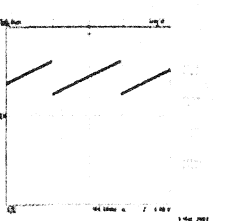
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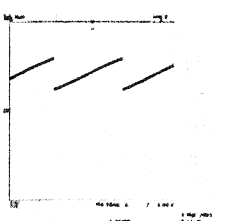
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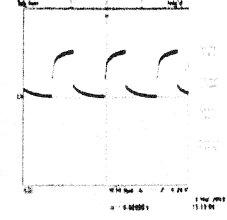
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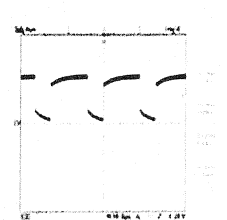
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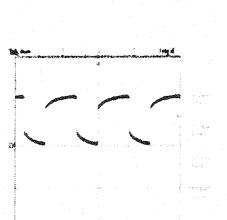
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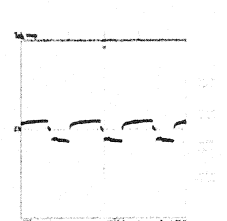
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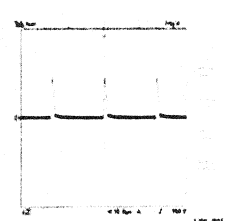
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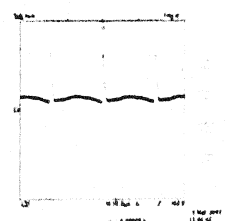
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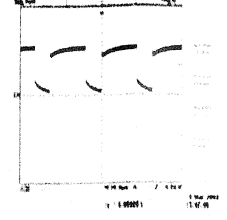
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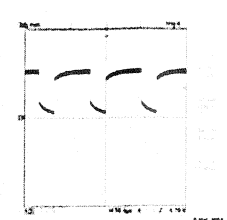
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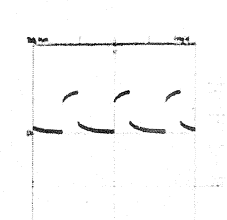
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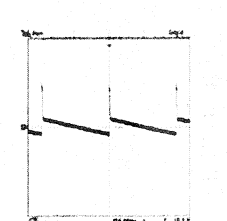
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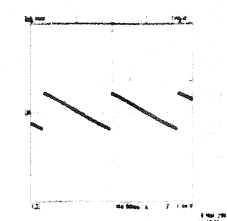
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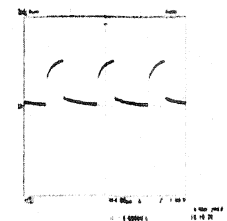
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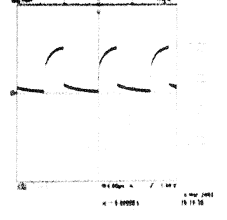
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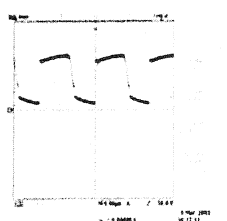
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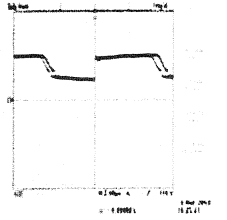
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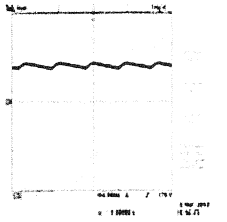
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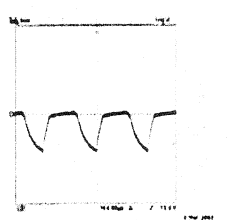
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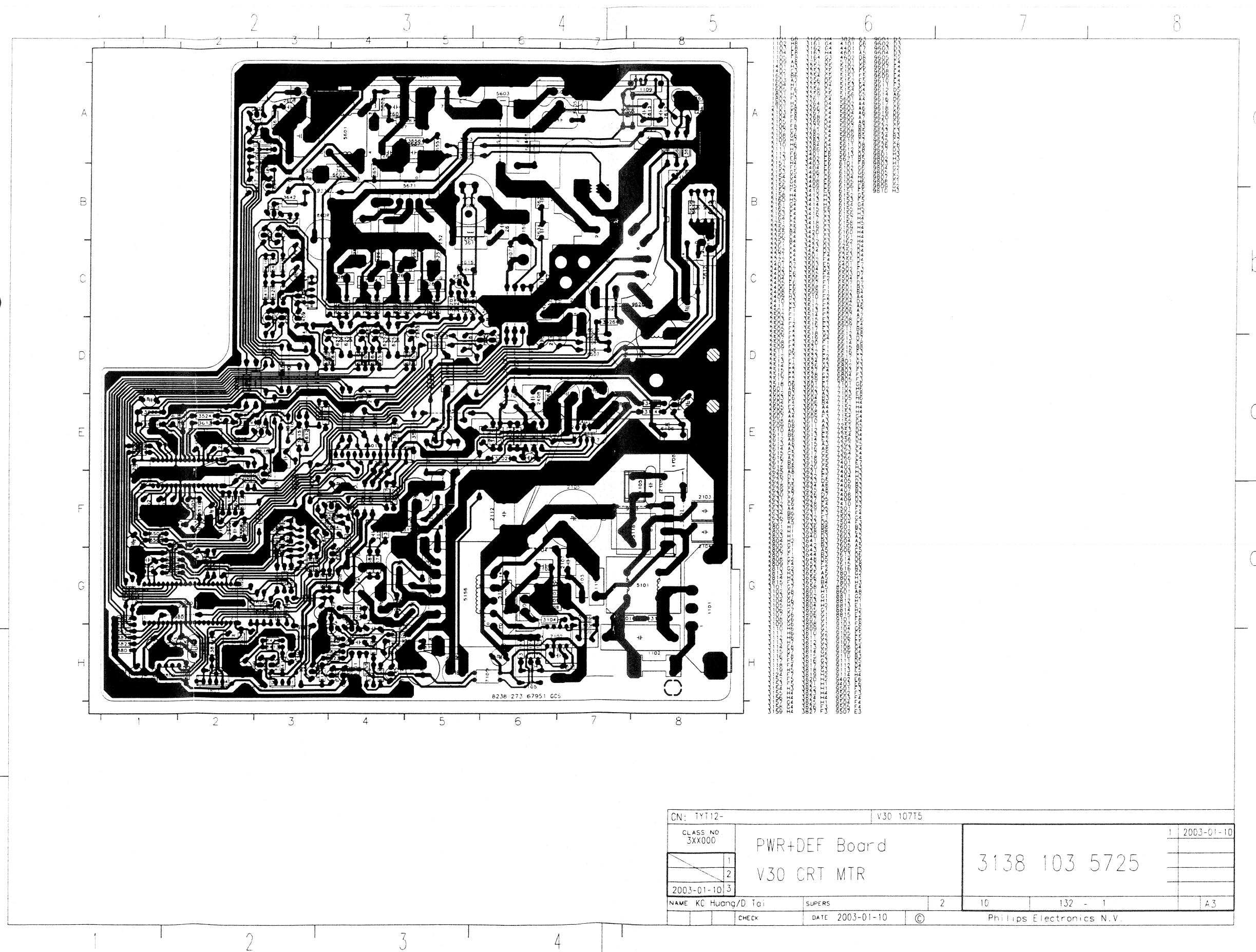
34.



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C. B. A. of Main board

107T5

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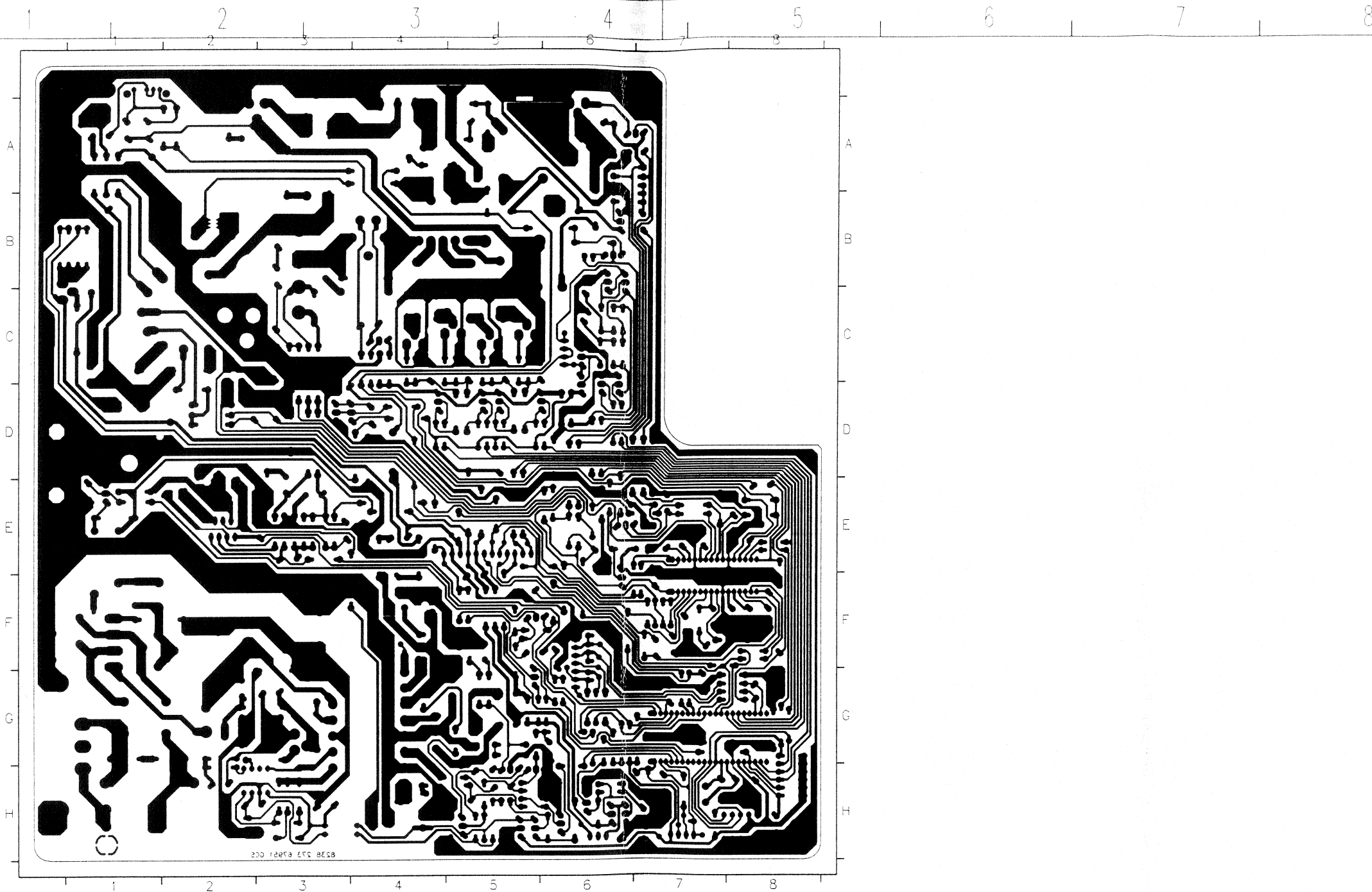


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CD

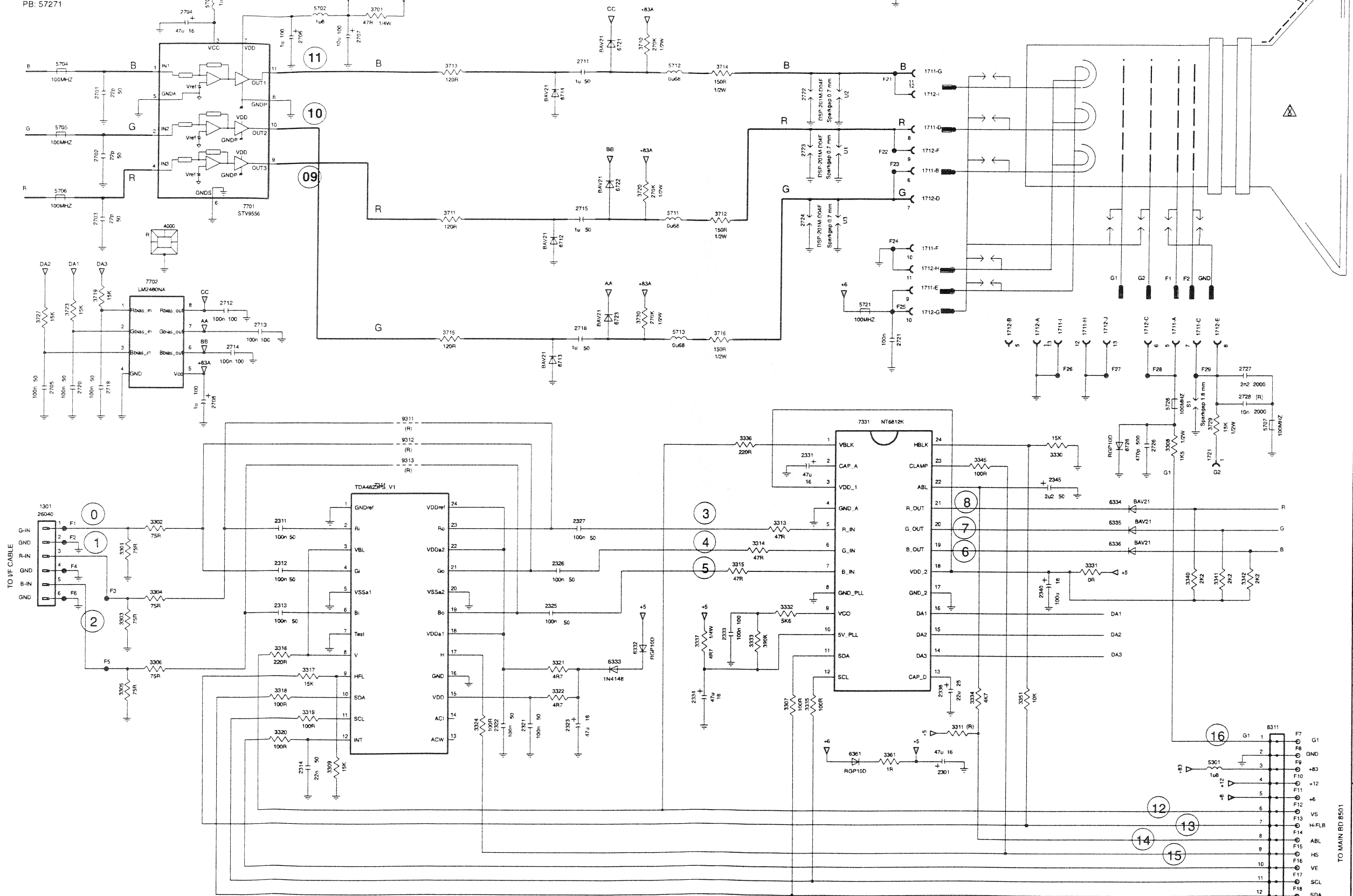
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CN: TYT12-		V30 107T5	
CLASS NO 3XX000	PWR+DEF Board		1 2003-01-10
	V30 CRT MTR		3138 103 5725
2003-01-10	3		
NAME KC Huang/D Tai	SUPERS	2	10 132 - 2 A3
CHECK	DATE 2003-01-10	©	Philips Electronics N.V.

VIDEO PCB

SB: 57261x1
PB: 57271



[R] STANDS FOR COMPONENT RESERVED ONLY.

- F1 F1 3331 F12
- F2 F1 3332 G9
- F3 G2 3333 G8
- F4 F1 3334 H11
- F5 G2 3335 H9
- F6 G1 3336 E8
- F7 H14 3337 G8
- F8 H14 3340 F13
- F9 H14 3341 F13
- S1 E13 3342 F13
- U1 B9 3345 E11
- U2 A9 3351 H11
- U3 C9 3361 H10
- F10 H14 3701 A4
- F11 H14 3710 A7
- F12 H14 3711 C5
- F13 H14 3712 C8
- F14 H14 3713 A5
- F15 H14 3714 A8
- F16 H14 3715 D5
- F17 H14 3716 D8
- F18 H14 3719 D2
- F21 A10 3720 B7
- F22 B10 3723 D1
- F23 B10 3727 D1
- F24 C10 3729 E13
- F25 D10 3730 D7
- F26 D12 4000 C2
- F27 D12 5301 H13
- F28 D12 5701 A3
- F29 D13 5702 A4
- F30 A10 5704 A1
- 1301 F1 5705 B1
- 1303 A10 5706 C1
- 1711-A D13 5707 E14
- 1711-B B10 5711 C7
- 1711-C D13 5712 A7
- 1711-D B10 5713 D8
- 1711-E C10 5721 D9
- 1711-F C10 5726 E13
- 1711-G A10 6332 G7
- 1711-H D12 6333 G7
- 1711-I D11 6334 F12
- 1712-A D11 6335 F12
- 1712-B D11 6336 F12
- 1712-C D12 6361 H8
- 1712-D C10 6712 C6
- 1712-E D13 6713 D6
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- 1712-H C10 6722 B7
- 1712-I A10 6723 D7
- 1712-J D12 6726 E12
- 1721 E13 7311 E4
- 2301 H10 7331 E10
- 2311 F3 7701 A2
- 2312 F3 7702 C2
- 2313 G3 8311 H14
- 2314 H4 9311 E5
- 2315 H6 9312 E5
- 2322 H6 9313 E5
- 2323 H6 9314 E5
- 2325 G6 9315 E5
- 2326 F6 9316 E5
- 2327 F7 9317 E5
- 2331 E8 9318 E5
- 2333 G8 9319 E5
- 2334 H8 9320 E5
- 2336 H10 9321 E5
- 2340 G11 9322 E5
- 2345 E11 9323 E5
- 2701 A2 9324 E5
- 2702 B2 9325 E5
- 2703 C2 9326 E5
- 2704 A2 9327 E5
- 2705 D1 9328 E5
- 2706 A4 9329 E5
- 2707 A4 9330 E5
- 2708 E3 9331 E5
- 2711 A7 9332 E5
- 2712 D3 9333 E5
- 2713 D3 9334 E5
- 2714 D3 9335 E5
- 2715 C7 9336 E5
- 2718 D7 9337 E5
- 2719 D2 9338 E5
- 2720 D1 9339 E5
- 2721 D10 9340 E5
- 2722 A9 9341 E5
- 2723 B9 9342 E5
- 2724 C9 9343 E5
- 2726 E12 9344 E5
- 2727 D13 9345 E5
- 2728 E13 9346 E5
- 3301 F2 9347 E5
- 3302 F2 9348 E5
- 3303 G2 9349 E5
- 3304 G2 9350 E5
- 3305 H2 9351 E5
- 3306 G2 9352 E5
- 3307 H9 9353 E5
- 3308 E13 9354 E5
- 3309 H4 9355 E5
- 3311 H10 9356 E5
- 3313 F9 9357 E5
- 3314 F8 9358 E5
- 3315 F8 9359 E5
- 3316 G3 9360 E5
- 3317 G4 9361 E5
- 3318 H3 9362 E5
- 3319 H4 9363 E5
- 3320 H3 9364 E5
- 3321 G6 9365 E5
- 3322 H6 9366 E5
- 3324 H5 9367 E5
- 3330 E11 9368 E5

CHN	TYT12	SETNAME	V30
CLASS_NO			
2003-01-07	3		
NAME	KC Huang/Deby Tai	SUPERS	1
CHECK		DATE	2003-01-07
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VIDEO BOARD

107T51/00

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2003-01-10

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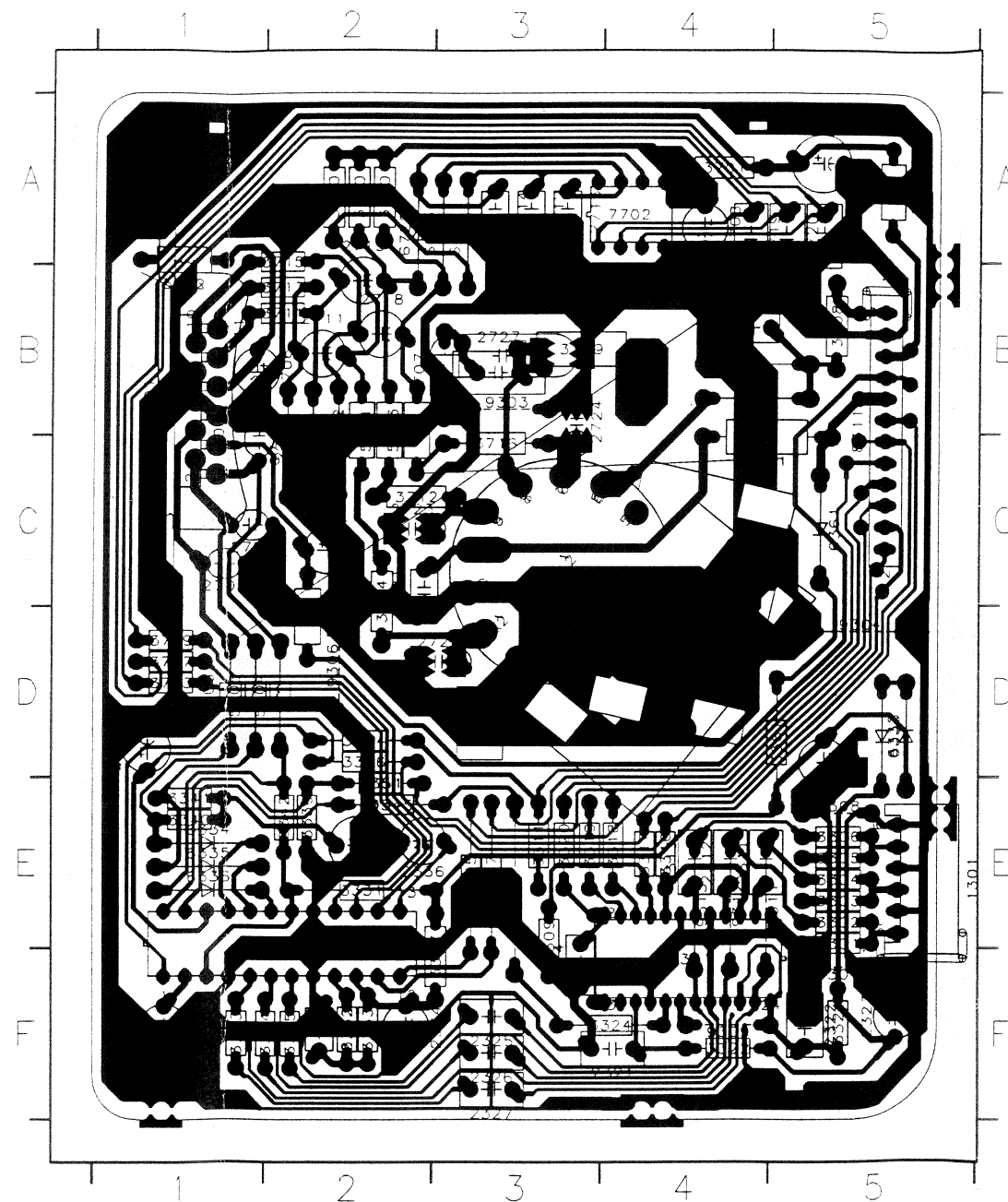
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CN: TYT12-		V30 107T5			
CLASS NO 3XX000	Video Board		1 2003-01-10		
	1	V30 CRT MTR	3138 103 5726		
	2				
2003-01-10	3				
NAME KC Huang/D Tai		SUPERS	10	132 - 1	A3
CHECK	DATE 2003-01-10	©	Philips Electronics N.V.		

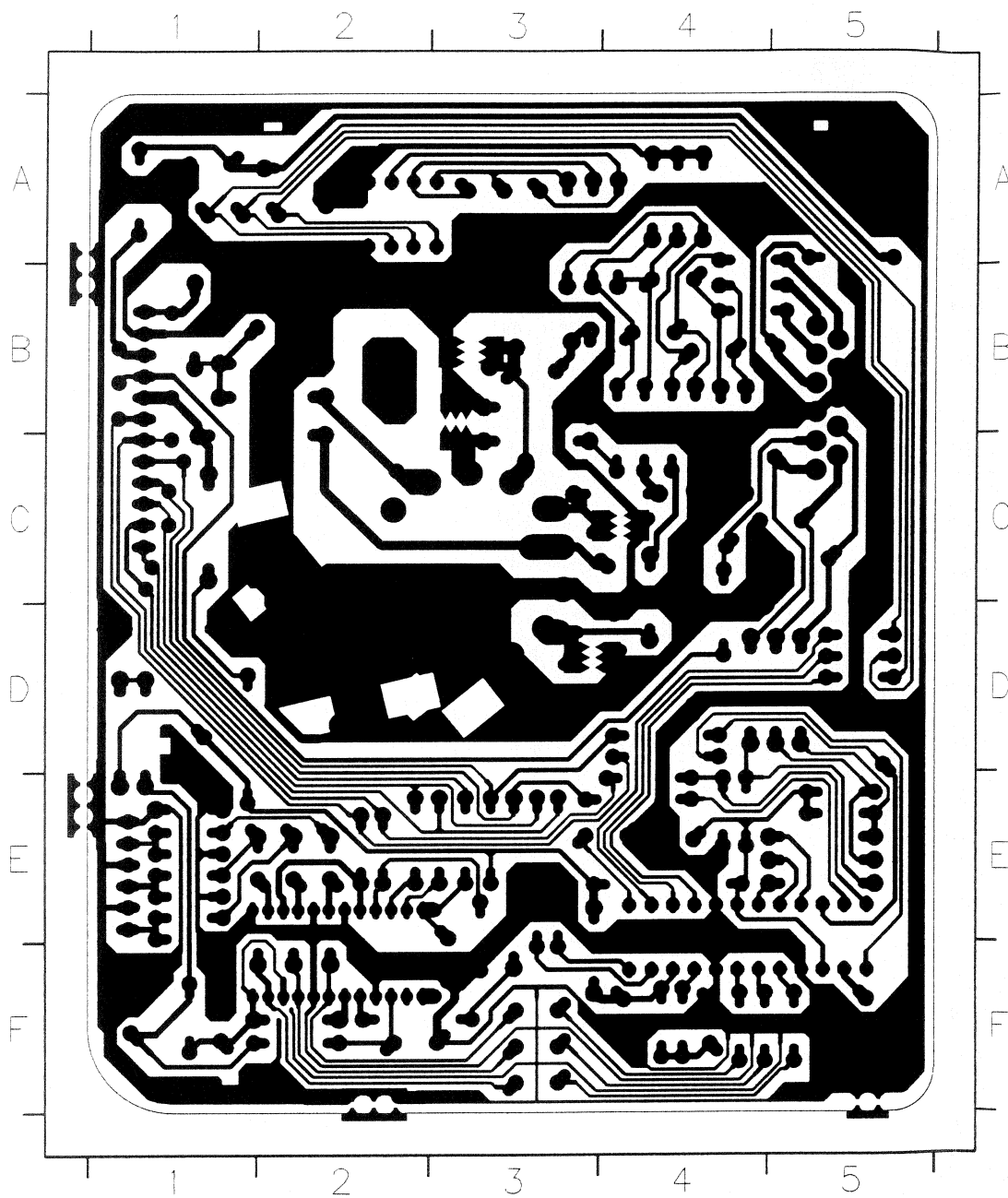
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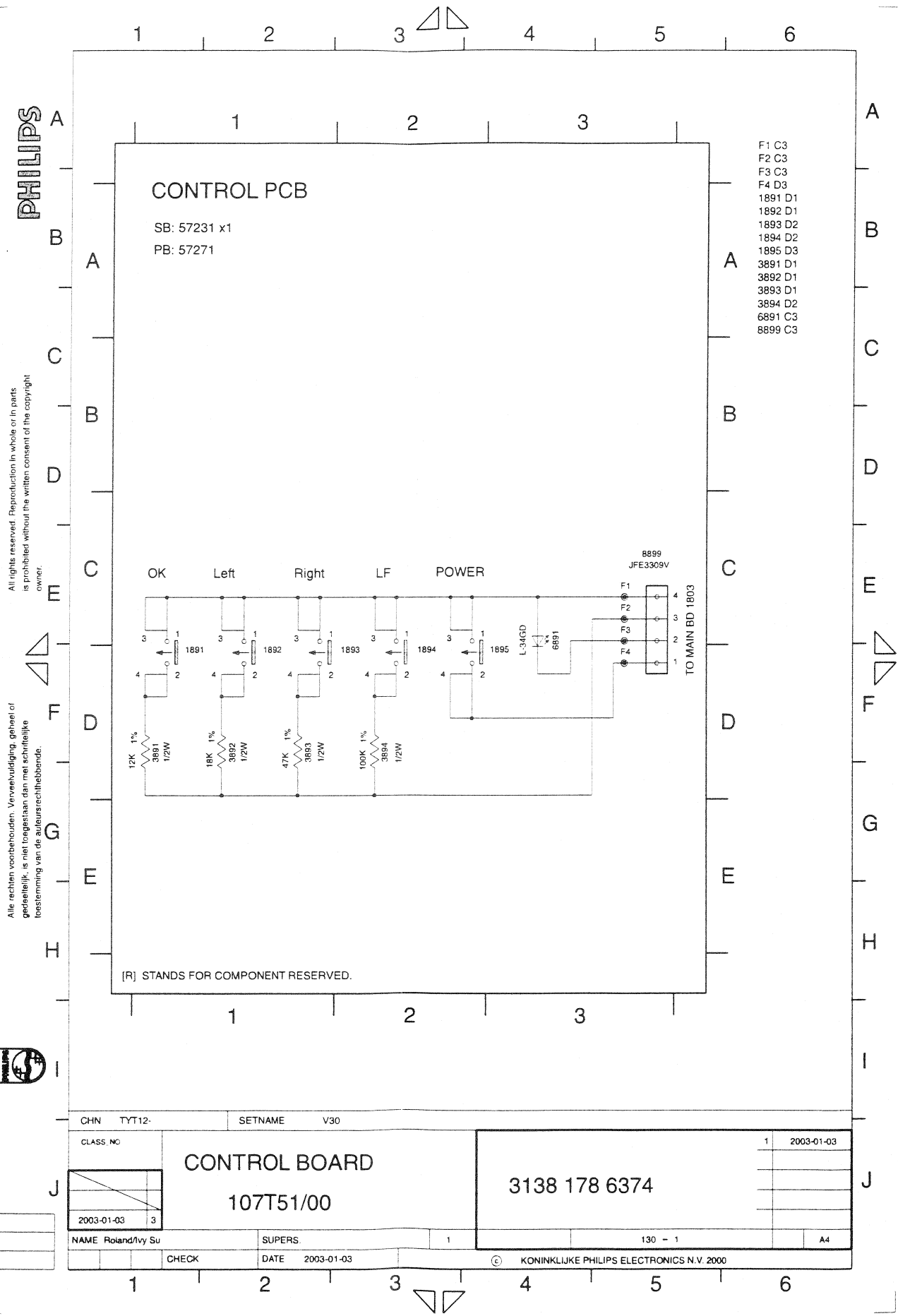
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CN: TYT12-		V30 107T5		1 2003-01-10	
CLASS NO 3XX000		Video Board			
		V30 CRT MTR		3138 103 5726	
2003-01-10 3					
NAME KC Huang/D Tai		SUPERS		10 132 - 2 A3	
CHECK		DATE 2003-01-10		© Philips Electronics N.V.	

Schematic Diagram of Control board 107T5 37

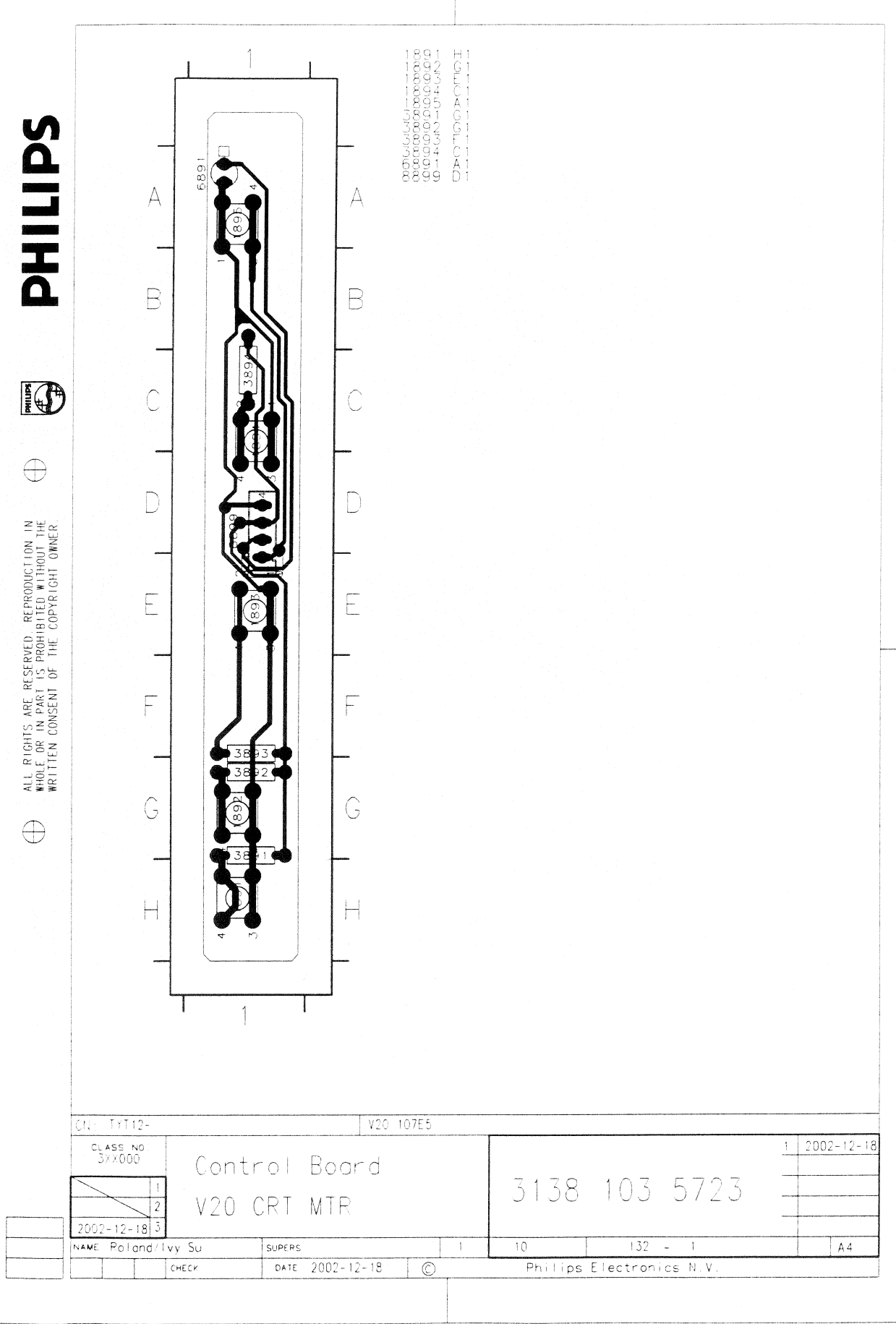
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38 107T5

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C. B. A. of Control board

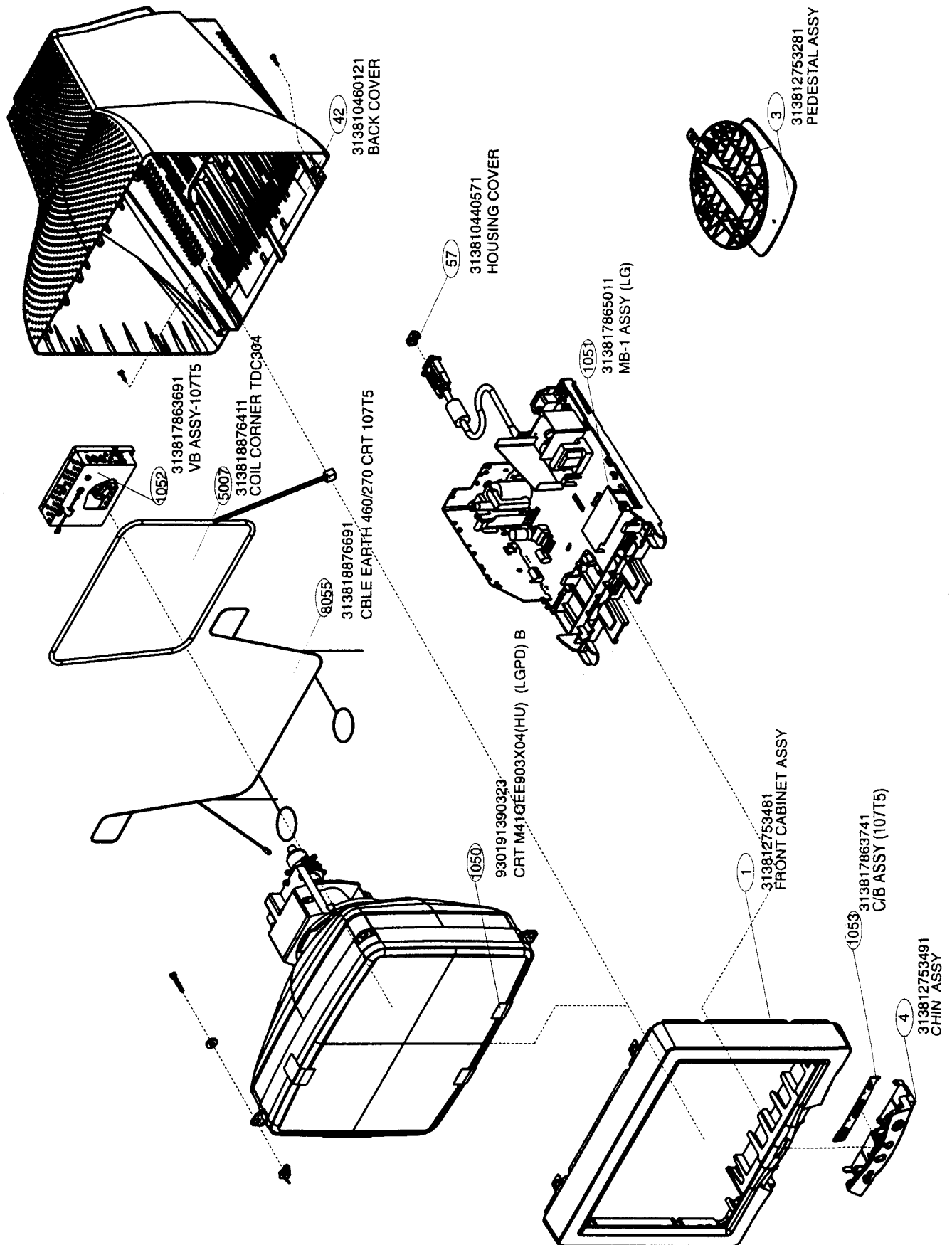


Exploded View

107T5

39

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Recommend Parts List

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Model: V30 107T50/00 863900012717

1	313812753481	FRONT CABINET ASSY
2	313812753281	PEDESTAL ASSY
42	313810460121	BACK COVER
4	313812753491	CHIN ASSY
450	313810662011	CARTON
451	313810661831	CUSHION-TOP
452	313810661841	CUSHION-BTM
454	313810656581	PE BAG
601	313811704781	E-D.F.U. ASSY
1161	243807098118	MAINSCORD (220V)-1.5M -CM3000
1162	313818876531	CORD SUB-D 15/1M45/6+7 PIN GY
1102	242208600208	FUSE 5X20 HT 4A 250V IEC B
1103	242213207402	RELAY 1P 12V 10/80A SDT-SS L
1711	242250080083	SC CRT V 9P F 12P 14-17KV Y
1801	243854300061	RES XTL 12MHZ 32P HC49U B

5007	313818876411	COIL CORNER TDC304
5101	313816872811	LINE FILTER (143Y1R5)
8055	313818876691	CABLE EARTH 460/270 CRT 107T5

7102	935267356112	IC TEA1507P/N1 (PHSE) L
7103	933953420676	TRA SIG TBC338-40 (TOSJ) A
7105	932214014667	OPT CP TCET1103(G) (VISH) L
7152	933826850126	THYRIS BT169B (PHSE) A
7153	932208234676	IC L78L05ACZ (ST00) A
7154	932209011673	TRA SIG BC548C (KEC0) A
7155	932208697676	IC TL431ACZ-AP S (ST00) A
7262	932212802687	FET POW IRF540 (ST00) L
7264	932217995687	FET POW IRF630B (PHSC0) L
7311	935270542112	IC TDA4823PS/V1 (PHSE) L
7331	932219319682	IC NT6812K (NOVA) L
7403	933567130126	TRA SIG BC517 (PHSE) A
7404	933567120126	TRA SIG BC516 (PHSE) A
7501	932219219682	IC TDA9112A (ST00) L
7502	932214472676	TRA SIG BF423 (KEC0) A
7504	933450090126	TRA SIG PH2369 (PHSE) A
7601	934003960126	FET SIG BSN254A (PHSE) A
7603	932210142676	TRA SIG BC556C (KEC0) A
7614	933179570126	TRA SIG BC328-40 (PHSE) A
7616	934025870126	TRA SIG MPSA44 (PHSE) A
7702	932216674682	IC LM2480NA (NSCO) L
7801	823827444721	CPU IC
7802	932212662682	IC M24C16-BN6 (ST00) L (OSD IC)

Spare Parts List

Go to cover page

Model: V30 107T50/00 863900012717

1	313812753481	FRONT CABINET ASSY
3	313812753281	PEDESTAL ASSY
4	313812753491	CHIN ASSY
42	313810460121	BACK COVER
1050	930191390323	CRT M41GEE03X04(HU) (LGPDI)

Various

450	313810662011	CARTON
451	313810661831	CUSHION-TOP
452	313810661841	CUSHION-BTM
454	313810656581	PE BAG
601	313811704781	E-D.F.U. ASSY

Accessories

1161	243807098118	MAINSCORD (220V)-1.5M -CM3000
1162	313818876531	CORD SUB-D 15/1M45/6+7 PIN GY

Main Panel

1051	313817865011	MB-1 ASSY (L.G)
1052	313817863811	VB ASSY-107T5
1053	313817863741	CB ASSY (107T5)

Main Panel

1051	313817865011	MB-1 ASSY (L.G)
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2108	203830250125	CAP POL MEF 100V S 220N PM10 A
2109	2038303527303	ELCAP KM 25V S 47U PM20 A
2111	203830250103	CAP MPOL 100V S 33K PM5 A
2112	202055490158	CERFAC OF 250V S 2N2 PM10 A
2151	2038303521701	ELCAP GS 100V S 47U PM20 A
2152	202202000717	ELCAP GS 180V S 47U PM20 B
2153	2038303521708	ELCAP GS 100V S 100U PM20 B
2154	2038303521217	ELCAP GS 18V S 1000U PM20 B
2155	8238274444641	ELE CAP 1000V/16V 105 DEGREE C
2156	2038303511222	ELCAP REA 18V S 47U PM20 A
2157	2038302502229	CAP MPOL 250V S 10N PM5 A
2158	202055790142	CER2 DC B 50V S 100P PM10 A
2160	202202000716	ELCAP GS 10V S 4700U PM20 B
2161	202055290834	CER2 DC F 50V S 22N PM20 A
2162	2038303521206	ELCAP GS 18V S 47U PM20 A
2163	2038303521208	ELCAP GS 18V S 47U PM20 A
2164	2038303521209	ELCAP GS 18V S 47U PM20 A
2251	203830351301	ELCAP GS 25V S 22U PM20 A
2252	203830100333	CAP MPP MPS 250V S 810N PM5 B
2255	203830100427	CAP MPP MPS 400V S 330N PM5 B
2256	225279508453	CER2 DC YSV 50V 100N PM20 A
2257	203830100229	CAP MPP MPS 250V S 330N PM5 B
2261	225279508453	CER2 DC YSV 50V 100N PM20 A
2262	203830100223	CAP MPP MPS 250V S 150N PM5 B
2401	2038303527205	ELCAP KM 18V S 470U PM20 A
2402	2038301527504	ELCAP KM 50V S 47U PM20 A
2403	202055290807	CER2 DC B 50V S 1N PM10 A
2404	2038303527205	ELCAP KM 18V S 470U PM20 A
2405	202055290834	CER2 DC F 50V S 22N PM20 A
2406	2038303520098	CAP MPOL 100V S 330K PM10 A
2408	2038303521301	ELCAP GS 25V S 22U PM20 A
2501	202055290784	CER2 DC B 50V S 100P PM10 A
2502	203830250212	CAP MPOL 100V S 100N PM5 A
2503	203830250088	CAP MPOL 100V S 10N PM10 A
2504	203830150173	CAP PP PPM 100V S 1N PM5 A
2505	203830250088	CAP MPOL 100V S 10N PM10 A
2508	2038303521301	ELCAP GS 25V S 22U PM20 A
2507	2038303521302	ELCAP GS 25V S 10U PM20 A
2508	225279508453	CER2 DC YSV 50V 100N PM20 A
2509	2038303521206	ELCAP GS 18V S 47U PM20 A
2511	2038303521303	ELCAP GS 25V S 10U PM20 A
2512	203830150181	CAP PP PPM 100V S 3N3 PM2 A
2513	2038303521207	ELCAP GS 18V S 100U PM20 A
2514	225279508453	CER2 DC YSV 50V 100N PM20 A
2515	203830250212	CAP MPOL 100V S 100N PM5 A
2516	203830250098	CAP MPOL 100V S 470N PM10 A
2517	2038303521206	ELCAP GS 18V S 47U PM20 A
2518	2038303521701	ELCAP GS 100V S 47U PM20 A
2601	225260808011	CER2 DC XTR 500V S 100P PM10 A
2602	2038303521701	ELCAP REA 100V S 1U PM20 A
2603	2038303521701	ELCAP GS 100V S 47U PM20 A
2604	202055290816	CER2 DC B 50V S 100P PM10 A
2605	225279508453	CER2 DC YSV 50V 100N PM20 A
2606	202055290803	CER2 DC B 50V S 470P PM10 A

2607	20383050121	CAP MPOL 100V S 150N PM10 A
2608	203830100118	CAP PP PPM 1KV8 S 4N7 PM5 B
2609	202202000728	ELCAP GS 250V S 22U PM20 B
2610	203830100108	CAP PP PPM 430V S 3N3 PM5 B
2611	203830250093	CAP MPOL 100V S 22N PM10 A
2612	203830250229	CAP MPOL 250V S 10N PM5 A
2613	203830250229	CAP MPOL 250V S 10N PM5 A
2614	2038303523801	ELCAP RP RP 83V S 31U PM10 B
2615	225279508453	CER2 DC YSV 50V 100N PM20 A
2616	2038303521201	ELCAP GS 18V S 10U PM20 A
2617	225232512104	CER2 ML XTR 50V S 100N PM10 A
2618	203830250088	CAP MPOL 100V S 10N PM10 A
2625	225264133527	CER2 DC ZSU 1KV S 5N6 PM20 B
2626	2038303521302	ELCAP GS 25V S 47U PM20 A
2628	203830150301	CAP PP PPM 250V S 10N PM5 A
2629	2038303513804	ELCAP RGA 250V S 22U PM20 B
2630	2038303513803	ELCAP RGA 180V S 10U PM20 B
2631	203830250088	CAP MPOL 100V S 10N PM10 A
2632	202055290814	CER2 DC B 50V S 3N3 PM10 A
2633	225260214266	CER2 DC XTR 2KV S 270P PM10 A
2634	225260214218	CER2 DC XTR 2KV S 220P PM10 A
2635	225260214266	CER2 DC XTR 2KV S 270P PM10 A
2801	2038303521201	ELCAP GS 18V S 10U PM20 A
2802	2038303521206	ELCAP GS 18V S 47U PM20 A
2803	202055290584	CER1 DC NP0 50V S 22P PM5 A
2804	202055290584	CER1 DC NP0 50V S 22P PM5 A
2805	202055290589	CER1 DC NP0 50V S 47P PM5 A
2806	202055290607	CER2 DC B 50V S 1N PM10 A
2807	203830150173	ELCAP GS 25V S 22U PM20 A
2808	2038303521302	ELCAP GS 25V S 47U PM20 A
2813	202055290834	CER2 DC F 50V S 22N PM20 A
2814	202055290834	CER2 DC F 50V S 22N PM20 A
2815	2038301750222	ELCAP RE 50V S 22U PM20 A
3101	231291514704	RST MFLM MBB0207 A 470K PM1 A
3102	231291514704	RST MFLM MBB0207 A 470K PM1 A
3103	313810050511	MET FLM RST RS22T 47K 6E
3104	212020200021	RST FUSE RFU1/3 A 15R PM5 A
3105	213810113471	RST CRB CFR-12 A 470R PM5 A
3106	213810113583	RST CRB CFR-12 A 58K PM5 A
3107	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3108	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3109	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3110	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3111	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3112	212211000298	RST MFLM MF1/2WS A 1R PM1 A
3113	213810113102	RST CRB CFR-12 A 1K PM5 A
3114	213810113103	RST CRB CFR-12 A 10K PM5 A
3115	213866000027	NTC DC 50K-104 S 10R PM15 B
3116	212266300024	PTC 270V S 9R PM20 B
3117	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
3118	231291511204	RST MFLM MBB0207 A 120K PM1 A
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3157	231291511004	RST MFLM MBB0207 A 100K PM1 A
3158	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
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3160	213810113102	RST CRB CFR-12 A 1K PM5 A
3161	212211000367	RST MFLM MF1/2WS A 2K7 PM1 A
3162	212211000336	RST MFLM MF1/2WS A 240R PM1 A
3163	213810113153	RST CRB CFR-12 A 15K PM5 A
3164	213810113103	RST CRB CFR-12 A 10K PM5 A
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3252	213810113333	RST CRB CFR-12 A 33K PM5 A
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3257	213810113332	RST CRB CFR-12 A 3K3 PM5 A
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3268	213810113333	RST CRB CFR-12 A 33K PM5 A
3269	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3272	213810113223	RST CRB CFR-12 A 22K PM5 A
3401	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
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3408	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
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3410	212961200085	NTC DC TTC-501 S 500R PM5 A
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3502	213811273382	RST CRB CFR-25 A 3K9 PM5 A
3503	231291511504	RST MFLM MBB0207 A 150K PM1 A
3504	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3505	213810113103	RST CRB CFR-12 A 10K PM5 A
3506	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3507	213810113479	RST CRB CFR-12 A 47R PM5 A
3508	213810113471	RST CRB CFR-12 A 47R PM5 A
3509	212211000274	RST MFLM MF1/2WS A 4K7 PM1 A
3510	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3511	213810113152	RST CRB CFR-12 A 1K5 PM5 A
3512	213810113103	RST CRB CFR-12 A 10K PM5 A
3513	213810113562	RST CRB CFR-12 A 58K PM5 A
3514	213810113123	RST CRB CFR-12 A 12K PM5 A
3515	231291511004	RST MFLM MBB0207 A 180K PM1 A
3516	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3517	213810113479	RST CRB CFR-25 A 470R PM5 A
3518	213810113472	RST CRB CFR-12 A 470R PM5 A
3519	213810113103	RST CRB CFR-12 A 10K PM5 A
3520	213810113103	RST CRB CFR-12 A 10K PM5 A
3521	213810113103	RST CRB CFR-12 A 100R PM5 A
3522	213810113103	RST CRB CFR-12 A 100R PM5 A
3523	212211000387	RST MFLM MF1/2WS A 15K PM1 A
3524	212211000389	RST MFLM MF1/2WS A 24K PM1 A
3525	213810113103	RST CRB CFR-12 A 10K PM5 A
3526	213810113103	RST CRB CFR-12 A 10K PM5 A
3527	231291511004	RST MFLM MBB0207 A 100K PM1 A
3528	212211000358	RST MFLM MF1/2WS A 1K PM1 A
3529	213810113103	RST CRB CFR-12 A 10K PM5 A
3530	213810113103	RST CRB CFR-12 A 10K PM5 A
3531	213810113103	RST CRB CFR-12 A 10K PM5 A
3532	212211000387	RST MFLM MF1/2WS A 15K PM1 A
3533	212211000389	RST MFLM MF1/2WS A 24K PM1 A
3534	213810113103	RST CRB CFR-12 A 10K PM5 A
3535	213810113478	RST CRB CFR-12 A 47R PM5 A
3604	2120592187	RST MOX 2W RSS 6 3K2 PM5 B
3607	2120592189	RST MOX 3W RSS 6 1R2 PM5 B
3808	212211000315	RST MFLM MF1/2WS A 10R PM1 A
3810	212211000315	RST MFLM MF1/2WS A 1K PM1 A
3811	212211000362	RST MFLM MF1/2WS A 22K PM1 A
3813	213810113102	RST CRB CFR-12 A 1K PM5 A
3814	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3815	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3816	212020020021	RST FUSE RFU1/3 A 15R PM5 A
3817	213810113102	RST CRB CFR-12 A 1K PM5 A
3818	212211000312	RST MFLM MF1/2WS A 58K PM1 A
3819	213810113102	RST CRB CFR-12 A 1K PM5 A
3820	212211000312	RST MFLM MF1/2WS A 58K PM1 A
3821	213810113273	RST CRB CFR-12 A 28K PM5 A
3822	213810113363	RST CRB CFR-12 A 8K PM5 A
3823	213810113472	RST CRB CFR-12 A 470R PM5 A
3824	213811273107	RST CRB CFR-12 A 1R PM5 A
3826	213811273108	RST CRB CFR-25 A 1R PM5 A
3829	212211000403	RST MFLM MF1/2WS A 58K PM1 A
3830	212211000403	RST MOX 1W RSS S 180R PM5 B
3831	213810113103	RST CRB CFR-12 A 10K PM5 A
3832	212211000356	RST MFLM MF1/2WS A 1K PM1 A
3833	213810113472	RST CRB CFR-12 A 47R PM5 A
3834	213810113223	RST CRB CFR-12 A 22K PM5 A
3835	213810113152	RST CRB CFR-12 A 150R PM5 A
3836	213810113182	RST CRB CFR-12 A 1K8 PM5 A
3840	213810113390	RST CRB CFR-12 A 38K PM5 A
3842	213810500439	RST MOL RAU1/4 A 47P PM1 A
3843	213810500439	RST MOL RAU1/4 A 330K PM1 A
3844	213810500439	RST MOL RAU1/4 A 880R PM1 A
3846	213810113103	RST CRB CFR-12 A 10K PM5 A
3852	213810113223	RST CRB CFR-12 A 22K PM5 A
3853	213810113223	RST CRB CFR-12 A 22K PM5 A
3854	231291511504	RST MFLM MBB0207 A 150K PM1 A
3856	231291511004	RST MFLM MBB0207 A 180K PM1 A
3857	213810113104	RST CRB CFR-12 A 100K PM5 A
3858	213810113104	RST CRB CFR-12 A 100K PM5 A
3859	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3901	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3902	213810113372	RST CRB CFR-12 A 4K7 PM5 A
3903	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3904	213810113479	RST CRB CFR-12 A 47R PM5 A
3906	213810113101	RST CRB CFR-12 A 100R PM5 A
3907	213810113101	RST CRB CFR-12 A 100R PM5 A
3908	213810113101	RST CRB CFR-12 A 100R PM5 A
3909	213810113103	RST CRB CFR-12 A 10K PM5 A
3910	213810113562	RST CRB CFR-12 A 58K PM5 A
3912	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3913	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3914	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3915	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3916	213810113101	RST CRB CFR-12 A 100R PM5 A
3917	213810113101	RST CRB CFR-12 A 100R PM5 A
3918	213811273101	RST CRB CFR-25 A 100R PM5 A
3919	213811273471	RST CRB CFR-25 A 470R PM5 A
3920	212211000392	RST MFLM MF1/2WS A 22K PM1 A
3923	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3924	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3925	213810113393	RST CRB CFR-12 A 1K8 PM5 A
3926	213810113393	RST CRB CFR-12 A 1K8 PM5 A
3927	213810113393	RST CRB CFR-12 A 1K8 PM5 A
3928	213810113393	RST CRB CFR-12 A 1K8 PM5 A

Spare Parts List

3426	213810113472	RST CRB CFF-12 A 4K7 PMS A
3427	213810113472	RST CRB CFF-12 A 4K7 PMS A
3428	213810113103	RST CRB CFF-12 A 10K PMS A
3429	213810113472	RST CRB CFF-12 A 4K7 PMS A

5007	313818876411	COIL CORNER TDC304
5101	313818872811	LINE FILTER (143V1RS)
5102	243853580058	IND FXD BEAD EMI 100MHZ 80R A
5103	243853580058	IND FXD BEAD EMI 100MHZ 80R A
5151	242253600036	IND FXD TSL0808 S 100U PM10 A
5152	242253600036	IND FXD TSL0808 S 100U PM10 A
5153	242253600036	IND FXD TSL0808 S 100U PM10 A
5154	242253600036	IND FXD TSL0808 S 100U PM10 A
5156	313818876731	TFM SMT LAYER SRW35EC T85V1
5601	313818876361	DRIVER XFMR (HJC S0738A)
5602	313818872631	BEAD COIL
5603	313818872631	BEAD COIL
5604	313818872631	BEAD COIL
5605	313818872631	BEAD COIL
5646	242253600037	IND FXD TSL0808 S 3700U PMS A
5607	313818876741	COI CHOKE 120UH 190mOHM DR1
5608	313818878181	LINEARITY COIL
5610	313818876771	TFM LOT LAYERH 11mm WHE
5611	313818871121	DRUM CHOKE
5612	243853580058	IND FXD BEAD EMI 100MHZ 80R A
5613	243853580058	IND FXD BEAD EMI 100MHZ 80R A
5671	313818875111	TFM POW DAF SRW19ES-236V005

6101	933215736682	BRIDGE GB4K (PA3J) B
6102	933723420133	DIO REC BYD3J3 A (PHSE) A
6103	933751660673	DIO REC RGP10D A (G100) A
6104	933188210133	DIO SIG BAV21 A (PHSE) A
6105	933188210133	DIO SIG BAV21 A (PHSE) A
6106	933083960133	DIO SIG IN4148 A (PHSE) A
6151	933730801033	DIO REC BYV36C A (PHSE) A
6152	933723420133	DIO REC BYD3J3 A (PHSE) A
6153	933730801033	DIO REC BYV36C A (PHSE) A
6154	933857760673	DIO REC SB140 A (G100) A
6155	933210346673	DIO REC SBVY27-200 A (G100) A
6156	933751660673	DIO REC RGP10D A (G100) A
6157	933117770133	DIO REC BZK79-CRV2 A (PHSE) A
6158	933751660673	DIO REC RGP10D A (G100) A
6159	933083960133	DIO SIG IN4148 A (PHSE) A
6160	933083960133	DIO SIG IN4148 A (PHSE) A
6161	933117770133	DIO REC BZK79-CRV5 A (PHSE) A
6162	933188210133	DIO SIG BAV21 A (PHSE) A
6251	933723420133	DIO REC BYD3J3 A (PHSE) A
6252	933723420133	DIO REC BYD3J3 A (PHSE) A
6253	933723420133	DIO REC BYD3J3 A (PHSE) A
6332	933751660673	DIO REC RGP10D A (G100) A
6401	933210346673	DIO REC SBVY27-200 A (G100) A
6502	933414680133	DIO REC BZK79-CV24 A (PHSE) A
6503	933188210133	DIO SIG BAV21 A (PHSE) A
6504	933083960133	DIO SIG IN4148 A (PHSE) A
6505	933083960133	DIO SIG IN4148 A (PHSE) A
6506	933083960133	DIO SIG IN4148 A (PHSE) A
6507	933188210133	DIO SIG BAV21 A (PHSE) A
6508	933083960133	DIO SIG IN4148 A (PHSE) A
6511	933117830133	DIO REC BZK79-C15 A (PHSE) A
6612	933723420133	DIO REC BYD3J3 A (PHSE) A
6613	933493960673	DIO REC RGP10G A (G100) A
6614	93205787673	DIO REC EGP20G A (G100) A
6615	933188210133	DIO SIG BAV21 A (PHSE) A
6616	933188210133	DIO SIG BAV21 A (PHSE) A
6617	933083960133	DIO SIG IN4148 A (PHSE) A
6801	933857760673	DIO REC SB140 A (G100) A
6802	933166820133	DIO REC BZK79-B5V6 A (PHSE) A
6803	933166820133	DIO REC BZK79-B5V6 A (PHSE) A
6804	933166820133	DIO REC BZK79-B5V6 A (PHSE) A
6805	933166820133	DIO REC BZK79-B5V6 A (PHSE) A
6806	933166820133	DIO REC BZK79-B5V6 A (PHSE) A

7102	93287356112	IC TEA1507PN1 (PHSE) L
7103	933853420676	TRA SIG TBC338-40 (TOSJ) A
7105	932214014667	OPT CP TCET1103(G) (VSH) L
7151	933853420676	TRA SIG TBC338-40 (TOSJ) A
7162	933853420676	TRA SIG TBC338-40 (TOSJ) A
7153	932208234876	IC L7L05ACZ (ST00) A
7164	932208011673	TRA SIG BC548C (KECO) A
7155	932208047876	IC TL1142Z AP S (ST00) L
7252	932208011673	TRA SIG BC548C (KECO) A

7253	932208011673	TRA SIG BC548C (KECO) A
7254	932208011673	TRA SIG BC548C (KECO) A
7262	932212802687	FET POW IRF640 (ST00) L
7263	932212802687	FET POW IRF640 (ST00) L
7264	93221798567	FET POW IRF630B (FSC0) L
7402	932208011673	TRA SIG BC548C (KECO) A
7403	933567130126	TRA SIG BC517 (PHSE) A
7404	933567130126	TRA SIG BC517 (PHSE) A
7501	932219219682	IC TDA1112A (ST00) L
7502	932214472676	TRA SIG BF423 (KECO) A
7504	933450080126	TRA SIG PH2368 (PHSE) A
7601	934003860126	FET SIG BSN254A (PHSE) A
7602	932208011673	TRA SIG BC548C (KECO) A
7603	932210142676	TRA SIG BC558C (KECO) A
7606	933853420676	TRA SIG TBC338-40 (TOSJ) A
7613	933853420676	TRA SIG TBC338-40 (TOSJ) A
7614	933179570126	TRA SIG BC328-40 (PHSE) A
7616	934025870126	TRA SIG MPSA44 (PHSE) A
7801	823827444721	CPU,IC
7802	932212662682	IC M24C16-BN6 (ST00) L
7803	932208011673	TRA SIG BC548C (KECO) A

Audio Panel

1052	313817863741	VB ASSY-107T5
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-48-

2101	203831000014	CAP MPP 275V 5 880N PM10 B
2103	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2104	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2105	20220200725	ELCAP LP 450V S 100U PM20 B
2107	203830150301	CAP PP PPN 250V S 10N PMS A
2108	225268214218	CER2 DC X7R 2KV S 220P PM10 A
2301	203803527202	ELCAP GS 16V S 47U PM20 A
2311	225279508453	CER2 DC Y5V 50V 100N P8020 A
2312	225279508453	CER2 DC Y5V 50V 100N P8020 A
2313	225279508453	CER2 DC Y5V 50V 100N P8020 A
2314	202055290834	CER2 DC F 50V 6 22N P8020 A
2321	225279508453	CER2 DC Y5V 50V 100N P8020 A
2322	225279508453	CER2 DC Y5V 50V 100N P8020 A
2323	203803521206	ELCAP GS 16V S 47U PM20 A
2325	225279508453	CER2 DC Y5V 50V 100N P8020 A
2326	225279508453	CER2 DC Y5V 50V 100N P8020 A
2327	225279508453	CER2 DC Y5V 50V 100N P8020 A
2331	203803527201	ELCAP KM 16V S 47U PM20 A
2333	225268214218	CER2 ML X7R 100V S 100N PM10 A
2334	203803527201	ELCAP KM 16V S 47U PM20 A
2336	203803527201	ELCAP KM 25V S 22U PM20 A
2340	203803527202	ELCAP KM 16V S 100U PM20 A
2345	823827444651	ELE CAP 2U250V 105 DEGREE C
2701	202055290594	CER1 DC NP0 50V S 22P PMS A
2702	202055290594	CER1 DC NP0 50V S 22P PMS A
2703	202055290594	CER1 DC NP0 50V S 22P PMS A
2704	203803527201	ELCAP KM 16V S 47U PM20 A
2705	225279508453	CER2 DC Y5V 50V 100N P8020 A
2706	203803513708	ELCAP RGA 100V S 1U PM20 A
2707	203803527102	ELCAP GS 100V S 10U PM20 A
2708	203803513708	ELCAP RGA 100V S 1U PM20 A
2711	202203600002	ELCAP BP NK 50V S 1U PM20 A
2712	225268214218	CER2 ML X7R 100V S 100N PM10 A
2713	225268214218	CER2 ML X7R 100V S 100N PM10 A
2714	225268214218	CER2 ML X7R 100V S 100N PM10 A
2715	202203600002	ELCAP BP NK 50V S 1U PM20 A
2718	202203600002	ELCAP BP NK 50V S 1U PM20 A
2719	225279508453	CER2 DC Y5V 50V 100N P8020 A
2720	225279508453	CER2 DC Y5V 50V 100N P8020 A
2721	225268214218	CER2 ML X7R 100V S 100N PM10 A
2726	202055780146	CER2 DC B 500V S 470P PM10 A
2727	225268214226	CER2 DC Y5P 2KV S 2N2 PM10 A

3301	213810113759	RST CRB CFF-12 A 75R PMS A
3302	213810113759	RST CRB CFF-12 A 75R PMS A
3303	213810113759	RST CRB CFF-12 A 75R PMS A
3304	213810113759	RST CRB CFF-12 A 75R PMS A
3305	213810113759	RST CRB CFF-12 A 75R PMS A
3306	213810113759	RST CRB CFF-12 A 75R PMS A
3307	213810113101	RST CRB CFF-12 A 100R PMS A
3308	212211000361	RST MFLM MF1/2WS A 15K PM1 A
3309	213810113153	RST CRB CFF-12 A 15K PMS A
3313	213810113479	RST CRB CFF-12 A 47R PMS A
3314	213810113479	RST CRB CFF-12 A 47R PMS A
3315	213810113479	RST CRB CFF-12 A 47R PMS A
3316	213810113221	RST CRB CFF-12 A 220R PMS A
3317	213810113153	RST CRB CFF-12 A 15K PMS A
3318	213810113101	RST CRB CFF-12 A 100R PMS A
3319	213810113101	RST CRB CFF-12 A 100R PMS A
3320	213810113101	RST CRB CFF-12 A 100R PMS A
3321	213810113478	RST CRB CFF-12 A 47R PMS A
3322	213810113478	RST CRB CFF-12 A 47R PMS A
3324	213810113101	RST CRB CFF-12 A 100R PMS A
3330	213810113153	RST CRB CFF-12 A 15K PMS A

3331	213810100369	RST JUMP CR-12 A MAX OR01 A
3332	213810113662	RST CRB CFF-12 A 5K6 PMS A
3333	213810113384	RST CRB CFF-12 A 390K PMS A
3334	213810113472	RST CRB CFF-12 A 4K7 PMS A
3335	213810113101	RST CRB CFF-12 A 100R PMS A
3336	213810113221	RST CRB CFF-12 A 220R PMS A
3337	213811273478	RST CRB CFF-25 A 47R PMS A
3340	213810113222	RST CRB CFF-12 A 2K2 PMS A
3341	213810113222	RST CRB CFF-12 A 2K2 PMS A
3342	213810113222	RST CRB CFF-12 A 2K2 PMS A
3345	213810113101	RST CRB CFF-12 A 100R PMS A
3351	213810113103	RST CRB CFF-12 A 10K PMS A
3361	213810113108	RST CRB CFF-12 A 1R PMS A
3701	213811273479	RST CRB CFF-25 A 47R PMS A
3710	2312951512704	RST MFLM MBB0207 A 270K PM1 A
3711	213810113121	RST CRB CFF-12 A 120R PMS A
3712	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3713	213810113121	RST CRB CFF-12 A 120R PMS A
3714	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3715	213810113121	RST CRB CFF-12 A 120R PMS A
3716	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3719	213810113153	RST CRB CFF-12 A 15K PMS A
3720	2312951512704	RST MFLM MBB0207 A 270K PM1 A
3723	213810113153	RST CRB CFF-12 A 15K PMS A
3727	213810113153	RST CRB CFF-12 A 15K PMS A
3729	212010128153	RST CMP ERC12 A 15K PM10 A
3730	2312951512704	RST MFLM MBB0207 A 270K PM1 A

5301	242253587608	IND FXD SPT0305 A 1U8 PM10 R
5701	242253587608	IND FXD SPT0305 A 1U8 PM10 R
5702	242253587608	IND FXD SPT0305 A 1U8 PM10 R
5704	313816872631	BEAD COIL
5705	313816872631	BEAD COIL
5706	313816872631	BEAD COIL
5707	313816872631	BEAD COIL
5711	313817874201	COL 0.88UH PM10
5712	313817874201	COL 0.88UH PM10
5713	313817874201	COL 0.88UH PM10
5721	243853580058	IND FXD BEAD EMI 100MHZ 80R A
5726	313816872631	BEAD COIL

6333	933256630673	DIO SIG IN4148 A (VSH) A
6334	933188210133	DIO SIG BAV21 A (PHSE) A
6335	933188210133	DIO SIG BAV21 A (PHSE) A
6336	933188210133	DIO SIG BAV21 A (PHSE) A
6361	933751660673	DIO REC RGP10D A (G100) A
6712	933188210133	DIO SIG BAV21 A (PHSE) A
6713	933188210133	DIO SIG BAV21 A (PHSE) A
6714	933188210133	DIO SIG BAV21 A (PHSE) A
6721	933188210133	DIO SIG BAV21 A (PHSE) A
6722	933188210133	DIO SIG BAV21 A (PHSE) A
6723	933188210133	DIO SIG BAV21 A (PHSE) A
6726	933751660673	DIO REC RGP10D A (G100) A

7311	935270542112	IC TDA4823P/SV1 (PHSE) L
7331	932219319882	IC NT6812K (NOVA) L
7702	932216874682	IC LM248UNA (NSCO) L

3891	212211000385	RST MFLM MF1/2WS A 12K PM1 A
3892	212211000388	RST MFLM MF1/2WS A 18K PM1 A
3893	212211000401	RST MFLM MF1/2WS A 47K PM1 A
3894	2312951511004	RST MFLM MBB0207 A 100K PM1 A

6891	932218424682	LED VS-L-34GD (KIEL) B
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1053	313817863741	C/B ASSY (107T5)
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3891	212211000385	RST MFLM MF1/2WS A 12K PM1 A
3892	212211000388	RST MFLM MF1/2WS A 18K PM1 A
3893	212211000401	RST MFLM MF1/2WS A 47K PM1 A
3894	2312951511004	RST MFLM MBB0207 A 100K PM1 A

6891	932218424682	LED VS-L-34GD (KIEL) B
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GENERAL PRODUCT SPECIFICATION

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1.0 Introduction

This document is related to the 17" AUTOSCAN (VGA above and Max. resolution 1280X1024 by 60HZ refresh) color monitor for world-wide destination.

2.0 General description

The AUTOSCAN analog color monitor is specified as a display peripheral within an IBM PC, PS/2, VGA and advance VGA compatible system.

The AUTOSCAN analog color monitor is to operate at horizontal line rates between 30 to 71 KHz and refreshment rate between 50 to 160 Hz, can be applied to all RGB analog computers within this scanning frequencies.

The AUTOSCAN analog color monitor is intended to be a finished product, basically a display device mounted inside a plastic enclosure which provides the aesthetic mechanical, ergonomic and safety requirements.

2.1 General condition

The unit will produce a usable image after switching-on, measurements are to be carried out with a full stabilized set after 30 minutes warm-up at room temperature of 25.0 C. Repetitive power on/off cycles are allowed though should be avoided within 4 sec.

3.0 Electrical characteristics

3.1 Signal interface

The AUTOSCAN analog color display has an analog video interface to operates at a multi-frequencies timing in several display modes.

3.1.1 Input requirements

A. Input signals

Video : Analog level
Sync. : Separate sync. with TTL level
Polarity : Positive or negative

B. Signal input level

Video : 0.7 Vp-p 75 ohms (for individual of R, G and B signals must not deviate 0.015 Vp-p from each other for balance of white pattern)
Sync : TTL level
(between 0 and 0.6 V to be considered as low level, between 2.3 and 5.0 V as high level)

C. Impedance

Video : Terminated with 75 ohms
Sync : Terminated with 4.7K ohms pull down resistors.



3.1.2 Signals input

The input video signals are applied to the display device through a video cable which is fixed to the monitor (standard cable length 1.45M).

Video input cable :
15 pin D-shell male connector type AMP 211350-1(3 rows) or equivalent, with pin assignment as follows :

Pin assignment of 15P D-SUB connector

Pin nbr.	Assignment
P1	Red video input
P2	Green video input
P3	Blue video input
P4	GND
P5	For selftest (PC Ground)
P6	Red video ground
P7	Green video ground
P8	Blue video ground
P9	Not connected -- No pin
P10	Sync ground
P11	GND
P12	Bi-directional Data (SDA)
P13	H SYNC
P14	V SYNC (VCLK)
P15	Data clock (SCL)

3.1.3 Factory preset modes:

Factory preset modes : 8

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	31.47 KHz	60Hz (VGA)	-	-
3.	640 x 480	43.3 KHz	85Hz (VESA)	-	-
4.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
5.	800 x 600	53.67 KHz	85Hz (VESA)	+	+
6.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
7.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
8.	1280 x 1024	64.0 KHz	60Hz (VESA)	+	+

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Factory preload modes : 14

	Resolution	H. freq.	V. freq.
9.	640 x 350	31.5 KHz	70 Hz
10.	640 x 350	37.9 KHz	85 Hz
11.	640 x 480	37.5 KHz	75 Hz
12.	640 x 480	37.9 KHz	72.8Hz
13.	640 x 480	50.6 KHz	100 Hz
14.	720 x 400	37.9 KHz	85 Hz
15.	800 x 600	37.9 KHz	60 Hz
16.	800 x 600	48.1 KHz	72 Hz
17.	800 x 600	63.9 KHz	100 Hz
18.	832 x 624	49.7 KHz	75 Hz
19.	1024 x 468	48.4 KHz	60 Hz
20.	1024 x 768	56.5 KHz	70 Hz
21.	1152 x 864	67.5 KHz	75 Hz
22.	1280 x 960	60 KHz	60 Hz

3.2 Timing requirements

The AUTOSCAN color monitor must be capable of displaying standard resolutions within the vertical(refresh) frequency range of 50 to 160 Hz and horizontal scan range of 30 to 71 KHz.

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TIMING FOR V30 GS4 107T5 71K COLOR MONITOR

REFERENCE PATTERN GENERATOR : CHROMA 2135

* According VESA version 1.0 release 0.6p

Factory preset modes

TABLE 1: 31.469 KHz/70.087 Hz, 720 X 400, pixel=28.325 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 31.774 us	Total size = 14.268 ms
Display size = 25.422 us	Display size = 12.711 ms
Rear porch = 1.907 us	Rear porch = 1.112 ms
Sync width = 3.813 us	Sync width = 0.064 ms
Sync polarity = -	Sync polarity = +

TABLE 2: 31.469KHz/59.940 Hz, 640 X 480, pixel=25.175 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 31.778 us	Total size = 16.683 ms
Display size = 25.422 us	Display size = 15.253 ms
Rear porch = 1.907 us	Rear porch = 1.049 ms
Sync width = 3.813 us	Sync width = 0.064 ms
Sync polarity = -	Sync polarity = -

TABLE 3: 43.269KHz/85.008 Hz, 640 X 480, pixel=36.000 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 23.111 us	Total size = 11.764 ms
Display size = 17.778 us	Display size = 11.093 ms
Rear porch = 2.222 us	Rear porch = 0.578 ms
Sync width = 1.556 us	Sync width = 0.069 ms
Sync polarity = -	Sync polarity = -

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TABLE 4: 46.875 KHz/75 Hz, 800 X 600, pixel=49.500 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 21.333 us	Total size = 13.333 ms
Display size = 16.162 us	Display size = 12.800 ms
Rear porch = 3.232 us	Rear porch = 0.448 ms
Sync width = 1.616 us	Sync width = 0.064 ms
Sync polarity = +	Sync polarity = +

TABLE 5: 53.674 KHz/85.061 Hz, 800 X 600, pixel=56.250 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 18.631 us	Total size = 11.756 ms
Display size = 14.222 us	Display size = 11.179 ms
Rear porch = 2.702 us	Rear porch = 0.503 ms
Sync width = 1.138 us	Sync width = 0.056 ms
Sync polarity = +	Sync polarity = +

TABLE 6: 60.03 KHz/75 Hz, 1024 X 768, pixel=78.750 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 16.660 us	Total size = 13.328 ms
Display size = 13.003 us	Display size = 12.795 ms
Rear porch = 2.235 us	Rear porch = 0.466 ms
Sync width = 1.219 us	Sync width = 0.050 ms
Sync polarity = +	Sync polarity = +

TABLE 7: 63.981 KHz/60 Hz, 1280 X 1024, pixel=108 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 15.630 us	Total size = 16.661 ms
Display size = 11.852 us	Display size = 16.005 ms
Rear porch = 2.296 us	Rear porch = 0.594 ms
Sync width = 1.037 us	Sync width = 0.047 ms
Sync polarity = +	Sync polarity = +

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TABLE 8: 68.677 KHz/85 Hz, 1024 X 768, pixel=84.500 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 14.561 us	Total size = 11.765 ms
Display size = 10.836 us	Display size = 11.183 ms
Rear porch = 2.201 us	Rear porch = 0.524 ms
Sync width = 1.016 us	Sync width = 0.044 ms
Sync polarity = +	Sync polarity = +

Factory preload modes

TABLE 9: 31.469KHz/70.087 Hz, 640 X 350, pixel=25.175MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 31.778 us	Total size = 14.268 ms
Display size = 25.422 us	Display size = 11.122 ms
Rear porch = 1.907 us	Rear porch = 1.907 ms
Sync width = 3.813 us	Sync width = 0.064 ms
Sync polarity = +	Sync polarity = -

TABLE 10: 37.861KHz/85.08 Hz, 640 X 350, pixel=31.5MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 26.413 us	Total size = 11.754 ms
Display size = 20.317 us	Display size = 9.244 ms
Rear porch = 3.048 us	Rear porch = 1.585 ms
Sync width = 2.032 us	Sync width = 0.079 ms
Sync polarity = +	Sync polarity = -

TABLE 11: 37.5KHz/75 Hz, 640 X 480, pixel=31.5MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 26.667 us	Total size = 13.333 ms
Display size = 20.317 us	Display size = 12.8 ms
Rear porch = 3.810 us	Rear porch = 0.427 ms
Sync width = 2.032 us	Sync width = 0.08 ms
Sync polarity = -	Sync polarity = -

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GENERAL PRODUCT SPECIFICATION

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TABLE 12: 37.861KHz/72.809 Hz, 640 X 480, pixel=31.5MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 26.413 us	Total size = 13.735 ms
Display size = 20.317 us	Display size = 12.678 ms
Rear porch = 4.064 us	Rear porch = 0.739 ms
Sync width = 1.270 us	Sync width = 0.079 ms
Sync. polarity = -	Sync. polarity = -

TABLE 13: 50.625 KHz/100.049 Hz, 640 X 480, pixel=40.5MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 19.752 us	Total size = 9.995 ms
Display size = 15.802 us	Display size = 9.481 ms
Rear porch = 1.975 us	Rear porch = 0.435 ms
Sync width = 1.580 us	Sync width = 0.059 ms
Sync. polarity = -	Sync. polarity = -

TABLE 14: 37.927 KHz/85.039 Hz, 720 X 400, pixel=35.5 MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 26.366 us	Total size = 11.759 ms
Display size = 20.282 us	Display size = 10.546 ms
Rear porch = 3.042 us	Rear porch = 1.107 ms
Sync width = 2.028 us	Sync width = 0.079 ms
Sync. polarity = -	Sync. polarity = +

TABLE 15: 37.879 KHz/60.317 Hz, 800 X 600, pixel=40MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 26.400 us	Total size = 16.579 ms
Display size = 20.000 us	Display size = 15.840 ms
Rear porch = 2.200 us	Rear porch = 0.607 ms
Sync width = 3.200 us	Sync width = 0.106 ms
Sync. polarity = +	Sync. polarity = +

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TABLE 16: 48.077 KHz/72.188 Hz, 800 X 600, pixel=50MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 20.800 us	Total size = 13.853 ms
Display size = 16.000 us	Display size = 12.480 ms
Rear porch = 1.280 us	Rear porch = 0.478 ms
Sync width = 2.400 us	Sync width = 0.125 ms
Sync. polarity = +	Sync. polarity = +

TABLE 17: 63.92KHz/100 Hz, 800 X 600, pixel=67.5MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 15.644 us	Total size = 9.997 ms
Display size = 11.852 us	Display size = 9.387 ms
Rear porch = 2.370 us	Rear porch = 0.548 ms
Sync width = 0.948 us	Sync width = 0.047 ms
Sync. polarity = +	Sync. polarity = +

TABLE 18: 49.714KHz/74.534 Hz, 832 X 624, pixel=57.27MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 20.115 us	Total size = 13.417 ms
Display size = 14.528 us	Display size = 12.552 ms
Rear porch = 3.911 us	Rear porch = 0.784 ms
Sync width = 1.118 us	Sync width = 0.060 ms
Sync. polarity = -	Sync. polarity = -

TABLE 19: 48.363 KHz/60.004 Hz, 1024 X 768, pixel=65MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 20.677 us	Total size = 16.666 ms
Display size = 15.754 us	Display size = 15.880 ms
Rear porch = 2.462 us	Rear porch = 0.600 ms
Sync width = 2.092 us	Sync width = 0.124 ms
Sync. polarity = -	Sync. polarity = -

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TABLE 20: 56.476KHz/70.069 Hz, 1024 X 768, pixel=75MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 17.707 us	Total size = 14.272 ms
Display size = 13.653 us	Display size = 13.599 ms
Rear porch = 1.920 us	Rear porch = 0.513 ms
Sync width = 1.813 us	Sync width = 0.106 ms
Sync. polarity = -	Sync. polarity = -

TABLE 21: 67.5 KHz/75Hz, 1152 X 864, pixel=108MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 14.815 us	Total size = 13.333 ms
Display size = 10.667 us	Display size = 12.8 ms
Rear porch = 2.370 us	Rear porch = 0.474 ms
Sync width = 1.185 us	Sync width = 0.044 ms
Sync polarity = +	Sync polarity = +

TABLE 22: 60.0 KHz/60 Hz, 1280 X 960, pixel= 108MHz

Horizontal	Vertical
Frame border = 0	Frame border = 0
Total size = 16.667 us	Total size = 16.667 ms
Display size = 11.852 us	Display size = 16.000 ms
Rear porch = 2.889 us	Rear porch = 0.600 ms
Sync width = 1.037 us	Sync width = 0.050 ms
Sync polarity = +	Sync polarity = +

GENERAL PRODUCT SPECIFICATION

3.2.1 Horizontal scanning

Scanning frequency : 30 - 71 KHz
H-shift range : ± 10 mm Min. (for preset modes only)

3.2.2 Vertical scanning

Scanning frequency : 50 - 160 Hz
V-shift range : ± 10 mm min. (for preset modes only)

3.3 Power supply

The display device maintains the specified performance in the range described as below :

Type	Mains current	Mains Voltage	Mains freq.
230V version	1.5A Max.	90 - 264 VAC	60 +/- 3 Hz
Power consumption : 75 Watts Max.			
Power cord length : 1.5M			
Power cord type : 3 lead plug power cord with protective earth plug or IBM hooded			

3.4 Power saving management system

	Signal			Compliance Requirement	Power
	H-Sync	V-Sync	Video		
On	Active	Active	Active	Mandatory	≤ 75 W
Off	Inactive	Active	Blanked	Mandatory	≤ 2 W
Off	Active	Inactive	Blanked	Mandatory	≤ 2 W
Off	Inactive	Inactive	Blanked	Mandatory	≤ 2 W

3.5 CRT Description

This display unit employs a high resolution CRT complying with the following specifications :

Dimensions : 17 inches flat/square screen
Pitch : 0.25mm dotted with black matrix
Deflection angle : 90 degrees
Light transmission : 50%(CPT), 52.8%(LG), 52.6%(SDI)
Face treatment : AGARAS
Implosion protection : By P-Mini-rim-band.
EHT : 25.0 \pm 1 KV (Ib=0)
Visible screen area : 325.1 mm x 243.8 mm
CRT Source : CPT, LG, SDI

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4.2 Image size (For preset modes only)

The dimensions of guaranteed display area to be measured along the picture center of horizontal and vertical axis of the screen as listed below: (preset modes only, refer to fig. 1)

Width : 306 ± 3 mm
Height : 230 ± 3 mm

4.3 Image centering deviation (For preset modes only)

With respect to fig. 2, the target relationships are the following :

IA- BI ≤ 5 mm IC- DI ≤ 5 mm

Note : This centering is adjustable by the end-user.

4.4 Picture shift control range (For preset modes only)

H-shift range : ± 10 mm min.
V-shift range : ± 10 mm min.

4.5 Picture tilt

With respect to Fig. 3, Tilt to be measured on extremes of center line from bezel.

IA- BI : ≤ 2 mm

4.6 Geometrical distortions (For preset modes only)

It is acceptable that pincushion, trapezoid, rhomboid, rotation and various waves distortions must remain within the limits of tolerance as in Fig. 4,
where A = B = 2.0 mm.
C = D = 2.0 mm.

The waviness of any vertical or horizontal shall be less than 1.0 mm over a 50 mm distance.

4.7 Image non-linearity (For preset modes only)

Apply cross-hatch pattern with
12 equal blocks along horizontal axis,
9 equal blocks along vertical axis. (see Fig. 1)

Overall : ≤ 10 %

Adjacent : ≤ 6 % (For 64kHz mode H ≤ 8 %)

$$\text{H. non-linearity} = \frac{X_{\text{max.}} - X_{\text{min.}}}{X_{\text{Max.}}} \times 100\%$$

$$\text{V. non-linearity} = \frac{Y_{\text{max.}} - Y_{\text{min.}}}{Y_{\text{Max.}}} \times 100\%$$

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4.8 Mis-convergence

The maximum convergence error to be measured on a white spot or white display line to represents the maximum distance between the energy centers of any two primary colors (See Fig. 6). For 31.5kHz modes B Zone : 0.4mm.

CONVERGENCE SPEC.

Zones	0.25 mm CRT
Zone C	0.15 mm
Zone A	0.25 mm
Zone B	0.35 mm

4.9 Focus check (68.7 KHZ / 85 HZ)

Adjust brightness control to center(50%) and contrast control to get 25 FL at full white pattern, then generate 1mm characters to cover the entire picture. The characters should be clearly identified in all display area. (See Fig. 8)

4.10 Luminance uniformity

condition : With full white pattern, set contrast control at maximum(100%) and brightness control at center(50%).
Brightness of the center of the display is 30 FL±5.

The Max. deviation over the screen should not exceed 25% .

4.11 White color adjustment

Based on the 1931 CIE chromatic diagram (x,y) coordinates of white display on screen center should be:

For 9300 K X = 0.283 ± 0.015
Y = 0.297 ± 0.015
For 6500 K X = 0.313 ± 0.015
Y = 0.329 ± 0.015
For sRGB X = 0.313 ± 0.015
Y = 0.329 ± 0.015

Check conditions : Set brightness control at center(50%) and contrast at maximum(100%).

For sRGB mode sRGB contrast is at Factory value.

4.12 Color tracking on full white pattern

Adjust for the luminance output from 3 to 30 FL by pressing the contrast control key (brightness control at 50%). The color co-ordinates should not deviate more than the following tolerance when compare to display center:

X= X (center) ± 0.015
Y= Y (center) ± 0.015

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4.13 Purity

Test patterns : Full white / Red / Green / Blue.

Conditions : As stated in item 4.0, the purity must be checked under specific destinations of earth magnetic environments and the monitor must be well degaussed.

After warming-up time of 30 min., no color stains may occur in the above four patterns.

4.14 Moiré

Condition: Display a full white pattern. At any preset mode, the display size must be set as Fig.1.

The clouding effect must not rise to disturbing levels in anywhere of the screen with luminance setting from 15 to 30 FL.

4.15 Blemish

Blemish shall be in accordance with CRT specification.

5.0 Mechanical characteristics

5.1 User controls

- Power ON/OFF key
- LightFrame key
- 3 Key digital user control (OSD)

5.2 Connectors and cables

- 5.2.1 Power cord type : 3 leads plugable power cord with protective earthed plug or IBM Hooded
- Length : 1.5 m ± 50 mm (excluding connector)
- Safety requirements : See following.

Countries	Approval		
	Mains plug	Wire	Connector
Germany	VDE	VDE	VDE
Switzerland	--	SVE	SVE
Belgium	CEBEC	--	--
Sweden	SEMKO	SEMKO	SEMKO
Finland	EI	--	EI
Norway	NEMKO	NEMKO	--
Denmark	DEMKO	DEMKO	DEMKO
Italy	OVE	--	OVE
Netherlands	KEMA	KEMA	KEMA
U.K.	ASTA	HAR	ASTA
U.S.A.	UL	UL	UL
Canada	CSA	CSA	CSA
Australia	SAA	SAA	SAA

CLASS NO

17" V30 GS4 107T5-71K CMTR

TYPE : 107T51/00
BRAND : PHILIPS

2003-01-07

NAME Wayne Lin

CHECK

DATE 2003-01-07

SPECS 30

590

18

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7638 01 30434



5.2.2 Signal cable

Length of video : 1.45 m ± 50 mm flying with 15 pin PS/2 D-shell socket

5.3 Tilt and swivel base

Tilt angle : 5° forward and 13° backward

Swivel rotation : 90° leftward or rightward

6.0 Environmental characteristics

The following sections to define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

6.1.1 (A) Operating limits

Temperature : 0 °C to 40 °C

Humidity : 10 to 90% (W/O condensation)

Air pressure : 700 ~ 1100 mbar

(B) Non-operating limits (storage)

Temperature : -25 °C to 65 °C

Humidity : 5 to 95 % (W/O condensation)

Altitude : 300 to 1100 mbar

6.1.2 Transportation packages

A) Carton box

A-1 Size (with pedestal)
496(W)×416(H)×556(D)

A-2 Carton paper : double wall AB flute corrugate board, color brown

Bursting : 19.3 kgf/cm² min

Compression : 600 kgf min

B) Transportation conditions

B-1 Container loading (separated pedestal)

Qty	Container size				
	40'		20'		40' High Cube
	W/ Pallet		W/ Pallet		W/ Pallet
	Yes	No	Yes	No	No
Layers	5	5	5	5	6
Sets / Layer	4	4	4	4	4
Sets / Block	20	20	20	20	24
Blocks / Container	24	24	10	10	24
Total Sets	480	480	200	200	576

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TYPE : 107T51/00
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2003-01-07

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SPECS 30

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B-2 Transportation standards

Standards		EU / Asia versions PHILIPS's UN-D1400	U.S.A. version NSTA
Drop test	Height	61 cm	61 cm
	Sequence	-10 C for 16 hours, 1 corner, 3 faces Right/Back/Top faces Left/Front/Bottom faces (only for reference)	1 corner 3 edges 6 faces
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set.	
Vibration test	Sequence	a. 5-200Hz. 0.25G operating random vibration 30 min/axis, 3 axes b. 5-200Hz. 0.73 packing random vibration 30 min/axis, 3 axes	
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set.	
Shock test		For design evaluation only. Half sine shock : 100G, <3m sec. 6 shocks Temp. : 23 C Humidity : 60 % Air pressure : 100 kpa Standard : Mechanical Guideline	

6.2 Display disturbances from external environment

6.2.1 ESD Disturbances

According to EN55024 (also refer to EN61000-4-2 for detail).

6.3 Display disturbances to external environment

The disturbances induced by the display and tolerated by the environment are defined as follows :

6.3.1 Ionizetic radiation

Completely fulfill International Commission of Radio logical Protection (ICRP) requirement 0.5 mR/Hr.
 Actually the set can reach 0.1 mR/Hr.

6.3.2 EMI/EMS

Can comply with FCC part 15,DOC C108.8 and EN55022 B Emission.
 EN55024 Immunity; EN61000-3-2 Current Harmonics; EN61000-3-3 Flicker.
 EMS EN61000-4-3 (80% 1KHz AM modulation) Picture jitter ≤ 2mm.

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7.0 Safety tests

7.1 Dielectric strength (Hi-pot test)

According to IEC 60950, UL 1950 and CSA 22.2 No. 950

7.2 Resistance for protective earthing

According to IEC 60950

7.3 Leakage current

According to IEC 60950, UL 1950 and CSA22.2 No. 950

7.4 Grounding

According to IEC 60950, UL 1950 and CSA22.2 No. 950

8.0 Certifications

8.1 Safety

The monitors comply with the following safety standards:

- IEC 60950
- UL 1950
- DHHS 21 CFR, subchapter J
- CSA-22.2 NO. 950
- EK1-ITB 2000

8.2 EMI (Electromagnetic Interference)

The monitor comply with the following EMI standards :

- EN55022 B Emission
- FCC Part 15
- DOC C108.8

8.3 Fulfil approbation requirements

Destination basis, set can fulfil following requirements:

Countries	Safety	EMI
Germany	TUV, GS	CE
Sweden	SEMKO	----
Norway	NEMKO	----
Denmark	DEMKO	----
Finland	FIMKO	----
U.S.A.	UL, DHHS	FCC
Canada	CSA	DOC
Taiwan	----	BSM1

CLASS NO 17" V30 GS4 107T5-71K CMTR

 TYPE : 107T51/00
 BRAND : PHILIPS

2003-01-07

NAME Wayne Lin

SUPERVISOR

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2030 100 00424

CLASS NO 17" V30 GS4 107T5-71K CMTR

 TYPE : 107T51/00
 BRAND : PHILIPS

2003-01-07

NAME Wayne Lin

SUPERVISOR

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9.0 Reliability

9.1 Mean time between failures

MTBF to be calculated according to Military standard MIL-HDBK-217C.

MTBF ≥ 75,000 Hours (Excluding CRT)

$$\text{PRACTICE of MTBF} = \frac{\text{TOTAL HRS (POWER ON) X TOTAL SETS}}{\text{NBR. OF FAILURE SETS}}$$

10.0 Quality assurance requirements

10.1 Acceptance test

According to MIL-STD-105D level II,

AQL : 0.4 (Major)

: 1.0 (Minor)

Customer acceptance : UAW 0377/40 criteria

11.0 Service ability

The service ability of this monitor should fulfil the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT - 0361

CLASS NO

17" V30 GS4 107T5-71K CMTR

TYPE : 107T51/00

BRAND : PHILIPS

2003-01-07

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SUPERVISOR

DATE 2003-01-07

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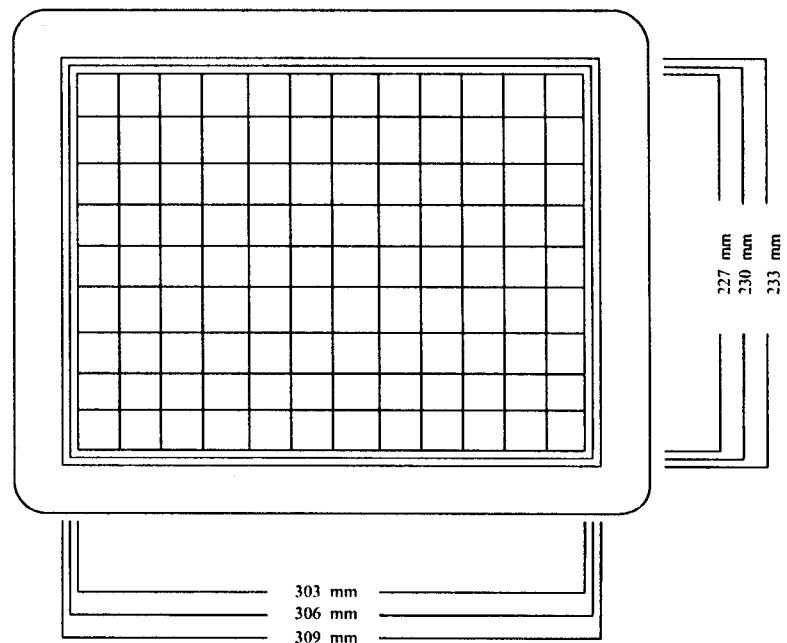


FIG-1 IMAGE DIMENSION

CLASS NO

17" V30 GS4 107T5-71K CMTR

TYPE : 107T51/00

BRAND : PHILIPS

2003-01-07

NAME Wayne Lin

SUPERVISOR

DATE 2003-01-07

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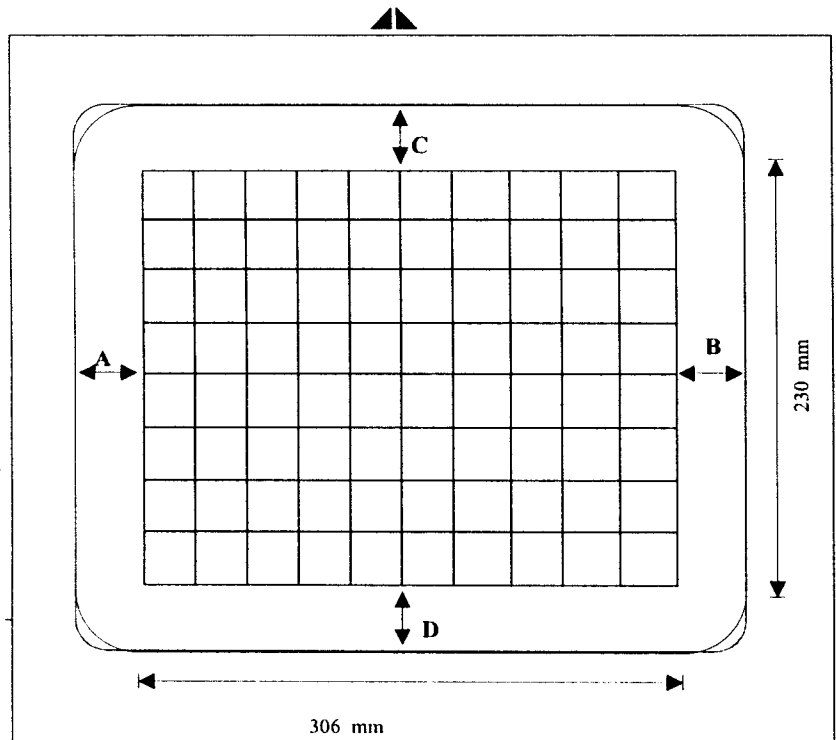


FIG-2 IMAGE CENTERING

CLASS NO.		17" V30 GS4 107T5-71K CMTR									
		TYPE : 107T51/00									
		BRAND : PHILIPS									
2003-01-07											
NAME Wayne Lin		SUPERVISOR									
TY		DATE 2003-01-07									
		Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.									

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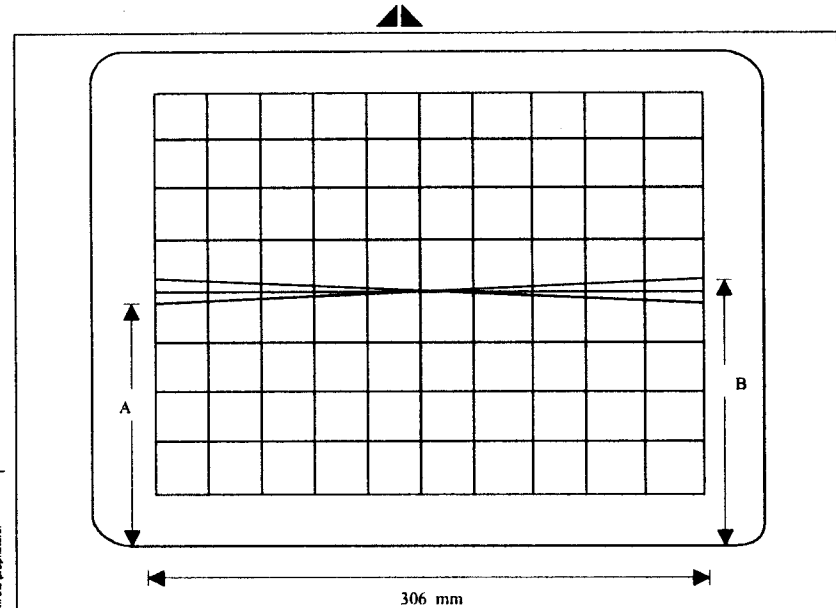
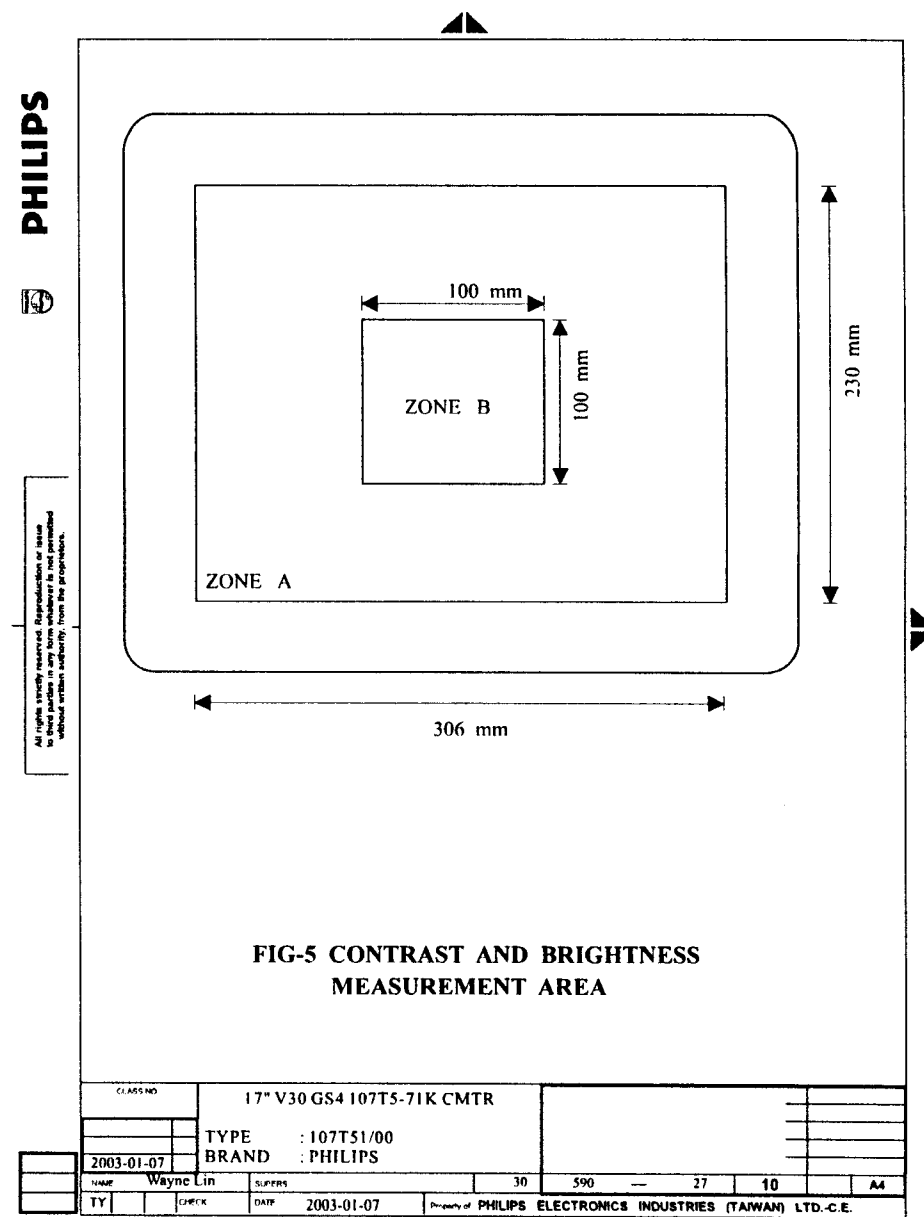
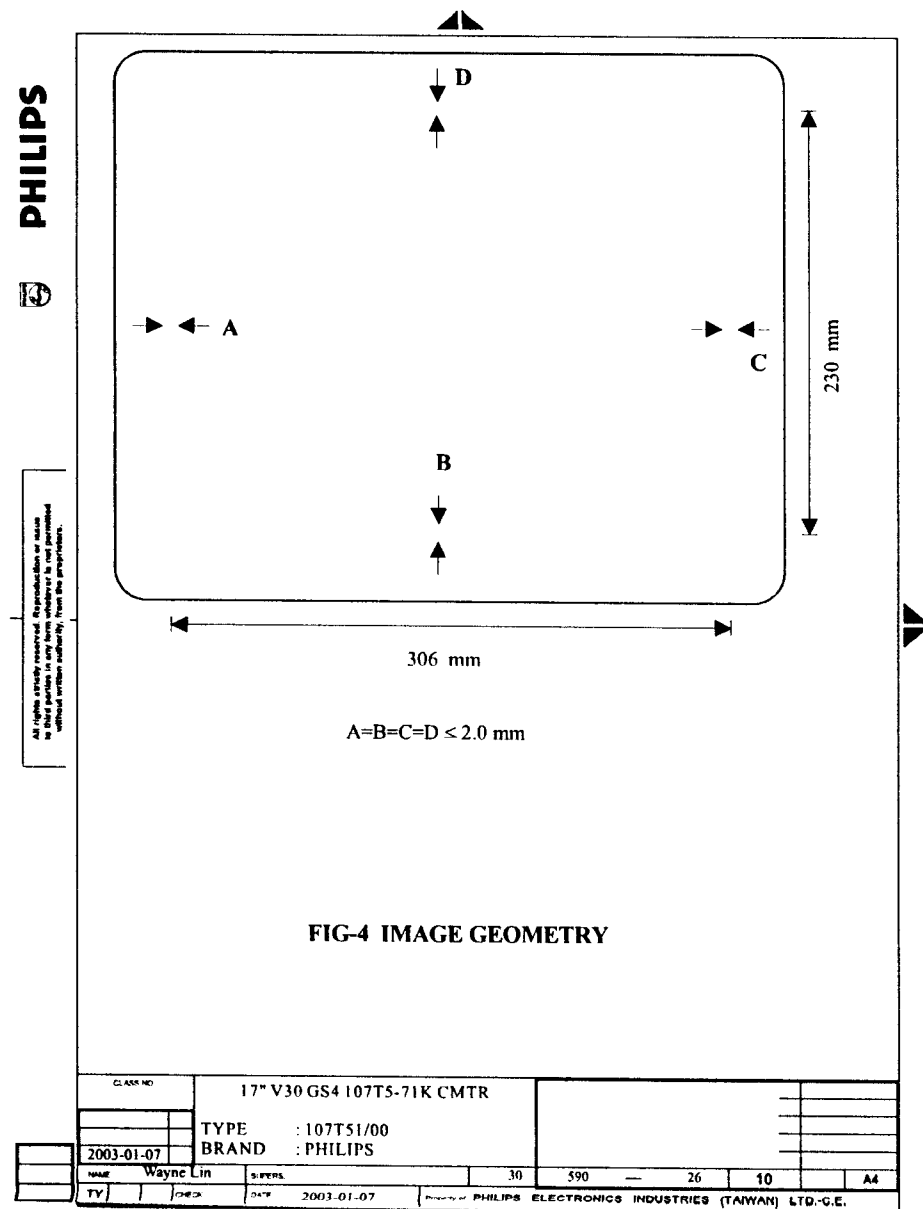


FIG-3 IMAGE ROTATION

CLASS NO.		17" V30 GS4 107T5-71K CMTR									
		TYPE : 107T51/00									
		BRAND : PHILIPS									
2003-01-07											
NAME Wayne Lin		SUPERVISOR									
TY		DATE 2003-01-07									
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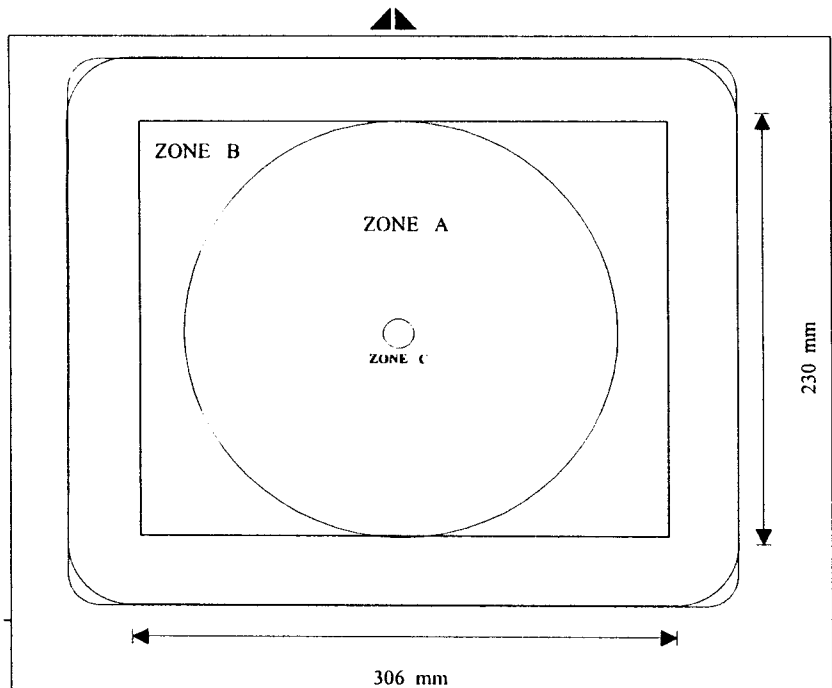
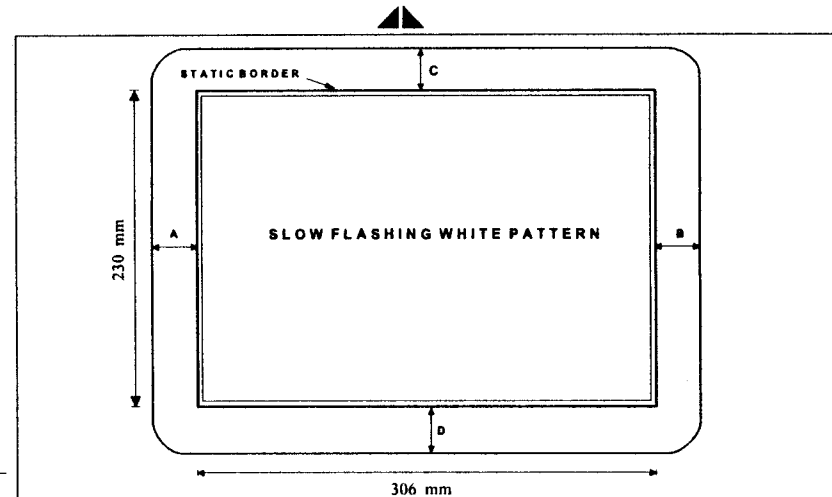


FIG-6 MISCONVERGENCE

CLASS NO		17" V30 GS4 107T5-71K CMTR																			
		TYPE : 107T51/00																			
		BRAND : PHILIPS																			
2003-01-07																					
NAME Wayne Lin		SUPERVISOR		30		590		28		10				A4							
TV		CHECK		DATE 2003-01-07		Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.															

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$\Delta A < 1.50 \text{ mm}$
 $\Delta B < 1.50 \text{ mm}$
 $\Delta C < 1.20 \text{ mm}$
 $\Delta D < 1.20 \text{ mm}$
(Δ measured between flash on / off)

Figure 7
Static EHT regulation distortion pattern

CLASS NO		17" V30 GS4 107T5-71K CMTR											
		TYPE : 107T51/00											
		BRAND : PHILIPS											
2003-01-07													
NAME Wayne Lin		SUPERVISOR		30		590		29		10		A6	
TV		CHECK		DATE 2003-01-07		Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.							

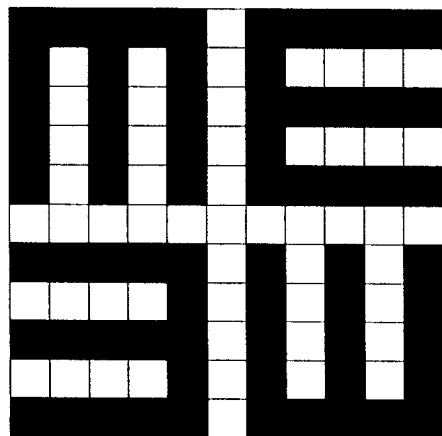
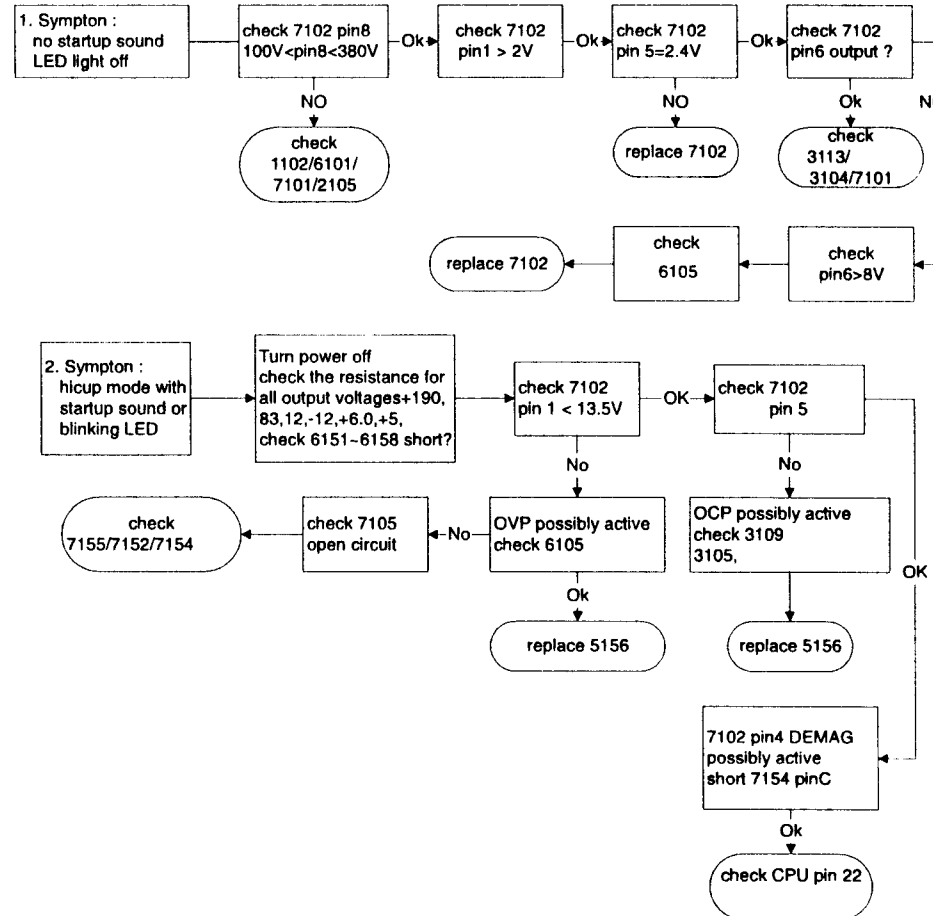


Figure 8

Focus check character

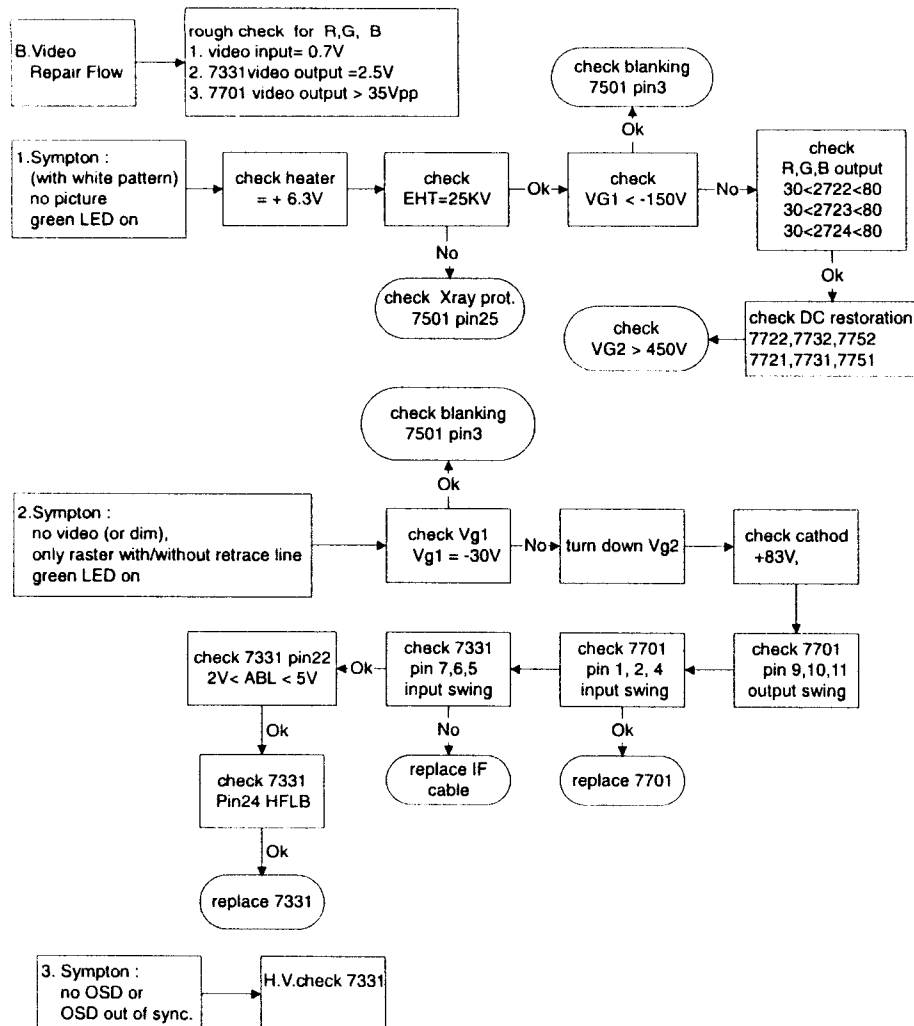
CLASS NO.	17" V30 GS4 107T5-71K CMTR									
TYPE	: 107T51/00									
BRAND	: PHILIPS									
DATE	2003-01-07									
NAME	Wayne Lin	S. PERS	30	500	—	30	10		A4	
DATE	2003-01-07									
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A. Power Supply Failure



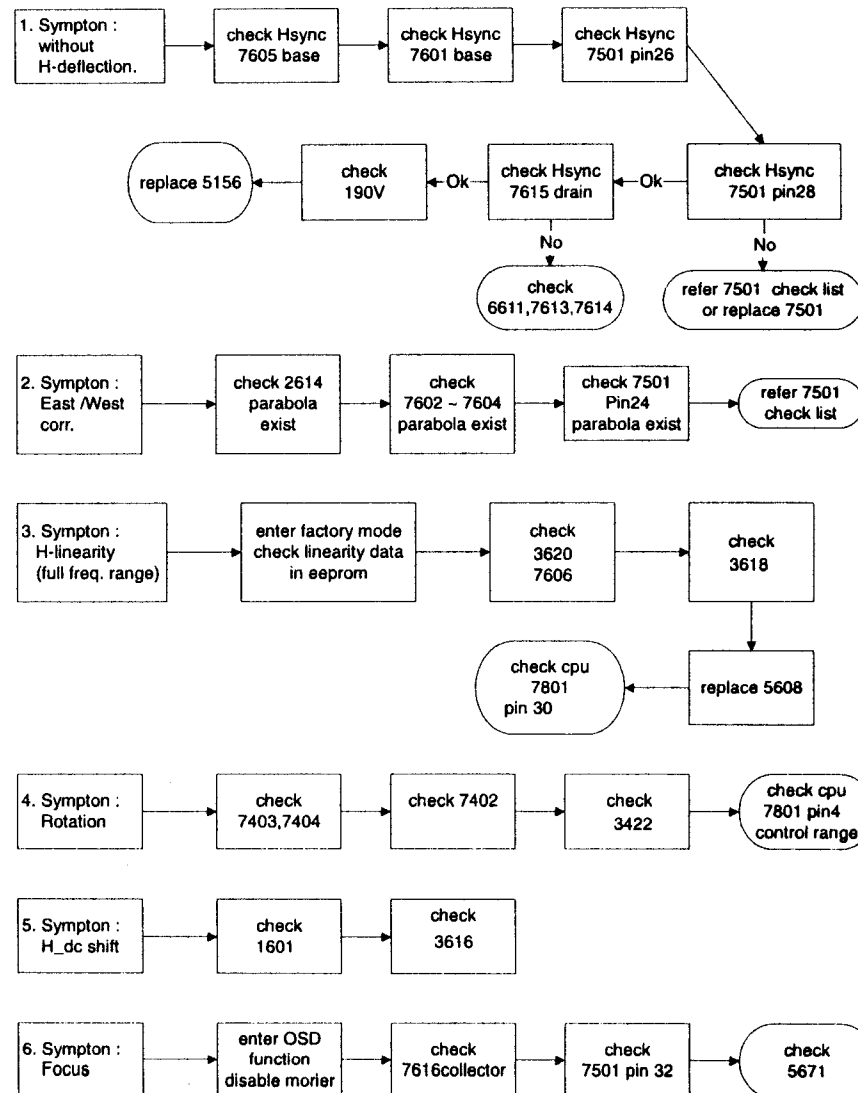
Repair Flow Chart (Continued)

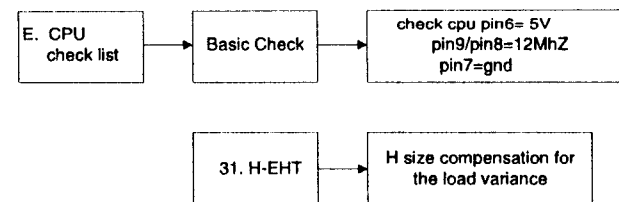
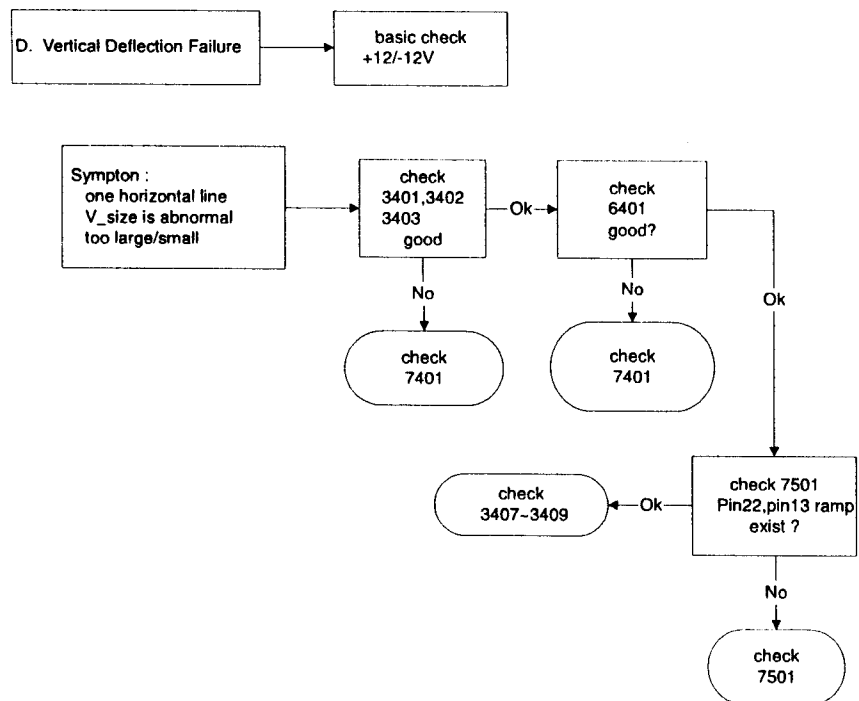
Go to cover page



Repair Flow Chart (Continued)

Go to cover page

C. Horizontal deflection
output repair flow :

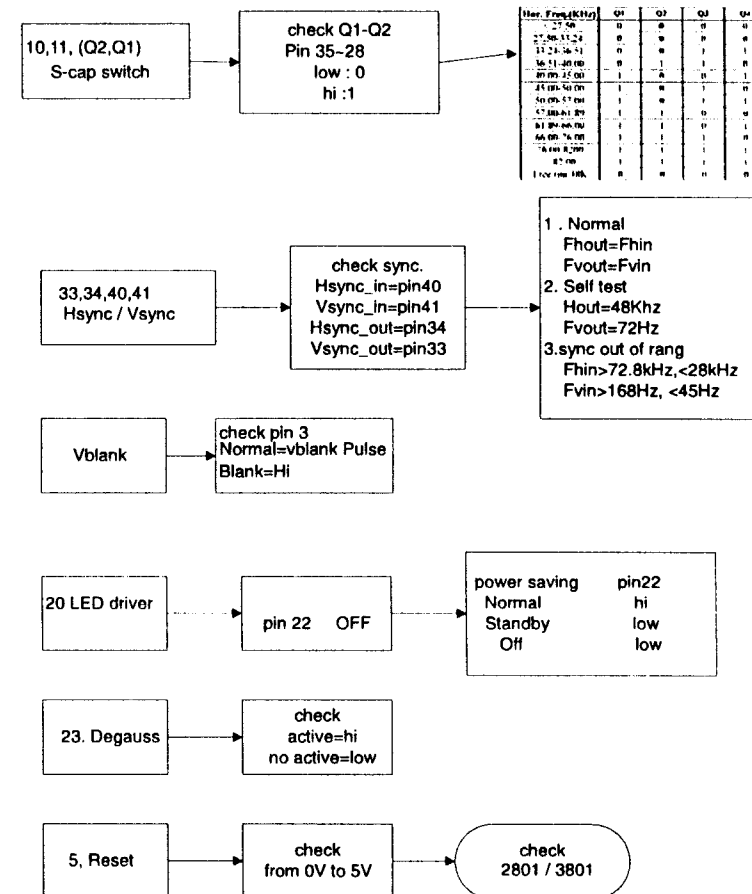


10715 71K S-CAPACITOR SWITCH TABLE

Hour Frequency (KHz)	Q1	Q2	Q3
27.00	0	0	0
27.50-31.00	0	0	0
31.00-34.00	0	1	0
34.00-38.00	0	1	1
38.00-44.00	1	0	0
44.00-52.00	1	0	1
52.00-60.00	1	1	0
60.00-66.00	1	1	0
66.00-70.00	1	1	1
70.00-75.00	0	0	0

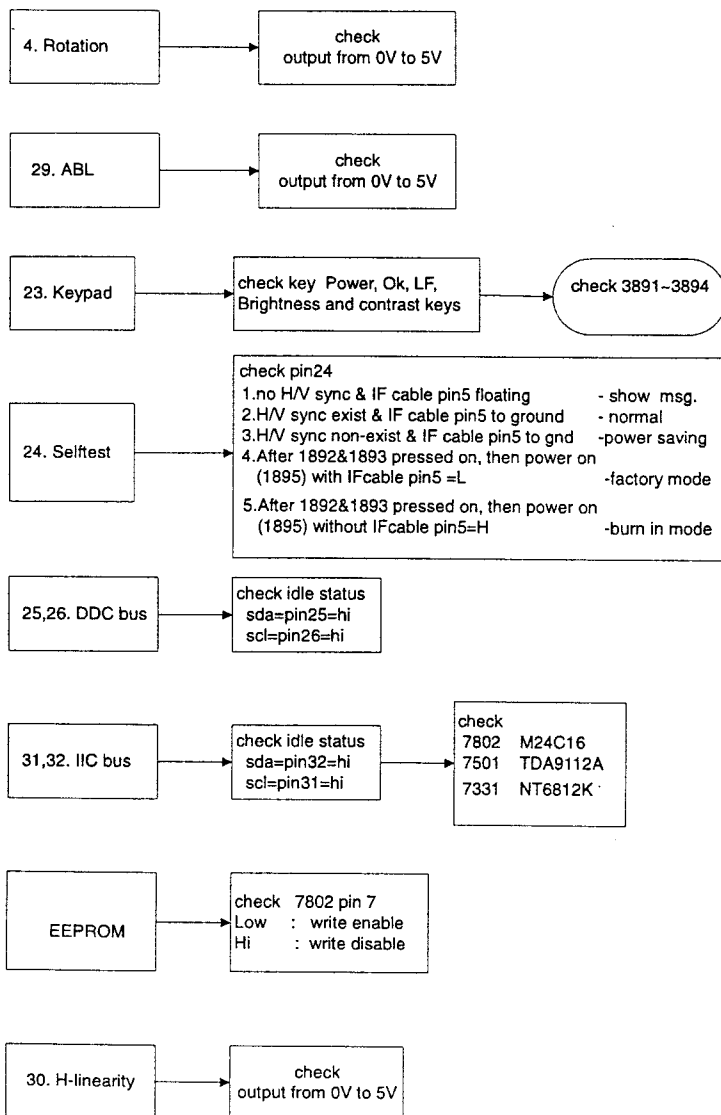
107B5.84K S-CAPACITOR SWITCH TABLE

Har. Freq (KHz)	Q1	Q2	Q3	Q4
57.50	0	0	0	0
57.500-57.524	0	0	0	0
57.524-57.548	0	0	1	1
57.548-57.572	0	1	1	0
57.572-57.596	1	0	0	1
57.596-57.620	1	0	1	0
57.620-57.644	1	1	0	0
57.644-57.668	1	1	1	0
57.668-57.692	1	1	1	1
57.692-57.716	1	1	1	1
57.716-57.740	1	1	1	1



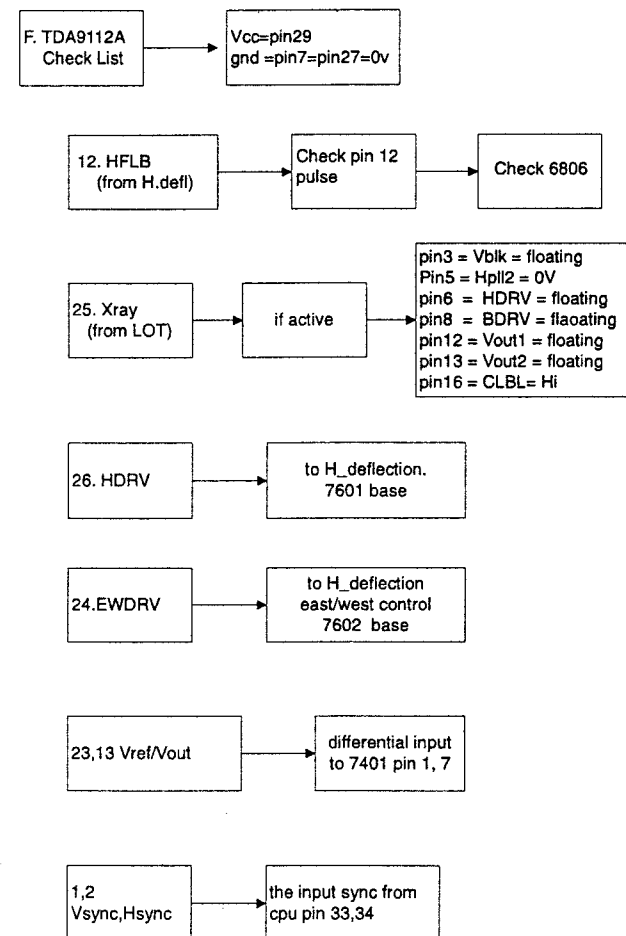
Repair Flow Chart (Continued)

Go to cover page

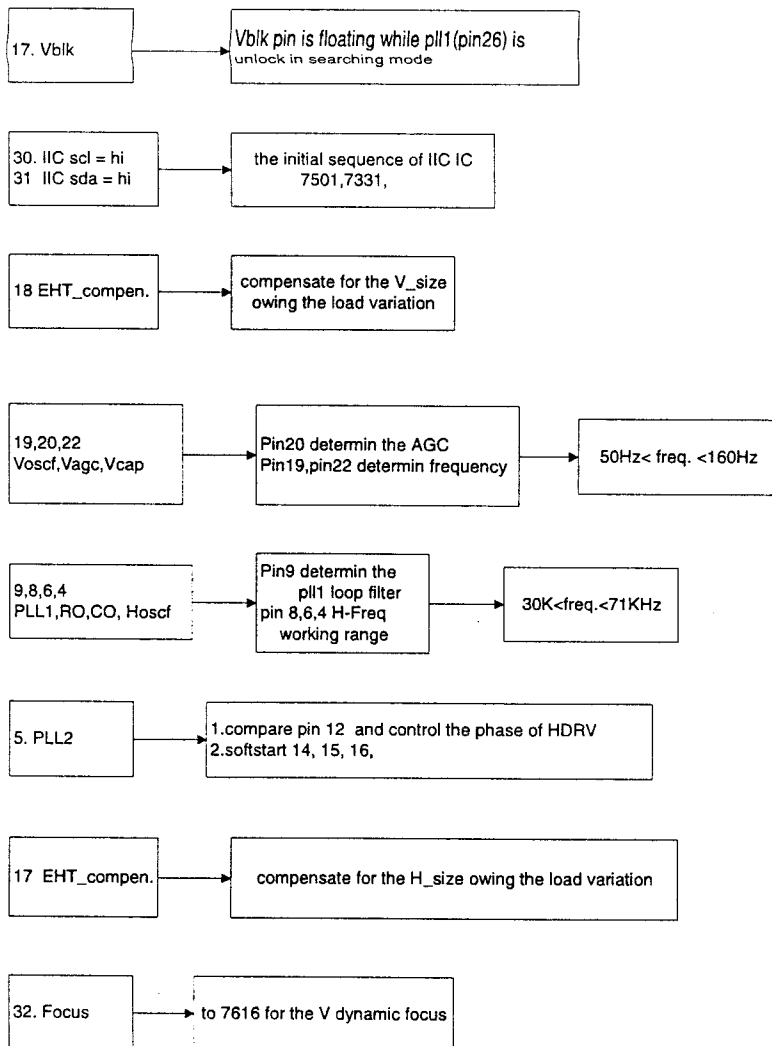


Repair Flow Chart (Continued)

Go to cover page



Go to cover page



Go to cover page

Introduction

Philips LightFrame feature enriches the experience of pictures and video on a Philips CRT (picture tube) monitor. This highlighting is done by boosting the brightness and sharpness on a selected region of the monitor screen. Since high brightness and sharpness are not preferred for most standard Windows applications, this special feature will only be active in certain circumstances. So that you can control these circumstances, a special program and icons will be installed in your Windows operating systems.

Notes

Philips LightFrame will only work with monitors that have been built to use this software. Earlier Philips monitors or other manufacturers monitors will not work with this special software. It is recommended that you install this software only on a Philips monitor designed to use it. These monitors can be identified by the LightFrame logo on the front of the monitor.



This software is not designed for use with LCD flat screen monitors.

LightFrame will work with true Windows-based programs and DOS-based programs that operate in a Windows environment. It will not work with DOS-based programs operating only in a DOS environment.

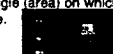
Definitions

The following list contains definitions for frequently used words.

Highlighted window: The selected window on which LightFrame is active.



Highlighted area: The selected rectangle (area) on which LightFrame is active.



Compatibility

This version of LightFrame is compatible with Windows 95 Windows 98

Windows ME Millennium Edition

Windows NT

Windows 2000 Professional Edition

Windows XP

Language Selection

While English is the default language of LightFrame, the User Interface can be set up to operate in Dutch, French, German, Italian, Portuguese, or Spanish.

Installation

- 1) To install LightFrame, place the CD in the CD-ROM drive.
- 2) Next, when the menu of items on the CD appears on your screen, click on 'Install LightFrame'.
- 3) Now, follow the on-screen prompts to properly install the program. The software checks to see if you have a compatible monitor. You must say yes to the license agreement for the software to install.
- 4) After installation, LightFrame automatically loads and the icon appears in the taskbar.

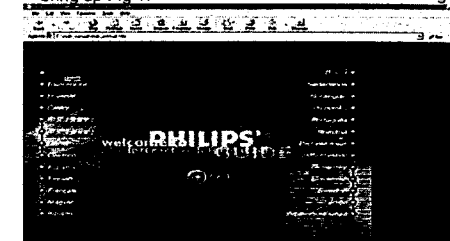
Notes

LightFrame is installed in the Start menu, under Programs. Unless otherwise selected during installation, LightFrame is installed in C:\Program Files\Philips\LightFrame. A shortcut is installed in the StartUp folder and on the desktop. (If needed, LightFrame can be operated manually from the StartUp folder.)

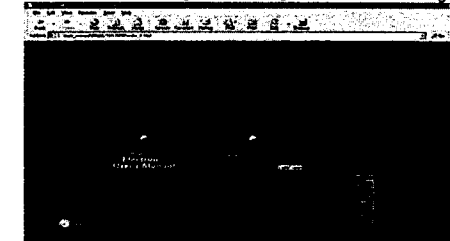
If LightFrame detects that your monitor is not LightFrame compatible, an message appears on the monitor screen. See Error Message number 1 under the heading Error Messages. If you see this message, you can select to abort or continue the installation. However, if you continue the installation, LightFrame will probably not work on the monitor.

1. Put CD-ROM into CD-ROM Drive, bring up Fig 1.

Fig 1.



2. Click one of languages (for example : English) on the screen, bring up, click Light Frame icon as Fig 2



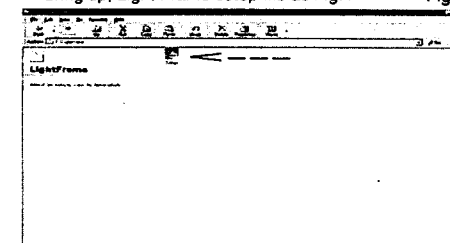
3. Click LightFrame, bring up, click Continue icon as Fig.3

Fig 3



4. Click Next, bring up, Light Frame setup file as Fig.4

Fig 4



Go to cover page

5. Click Yes, bring up Fig.5

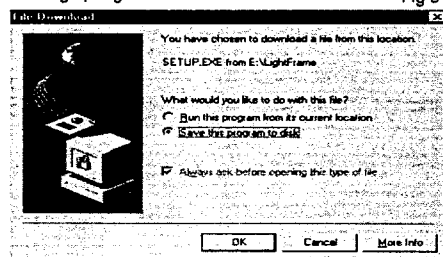


Fig 5

6. Click Next, bring up Fig.6

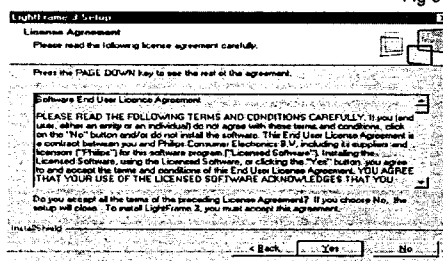


Fig 6

7. Click Next, bring up Fig.7

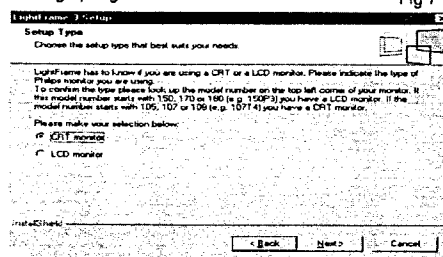


Fig 7

8. Click Next, bring up Fig.8 & Fig.9

Fig 8

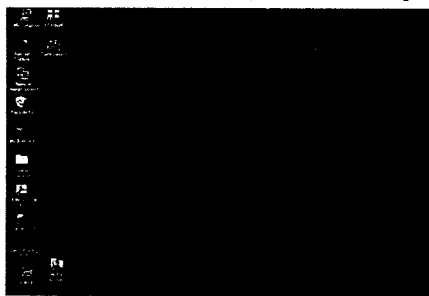


Fig 9



9. Click Finish, bring up LightFrame 3, Fig. 10 on the desktop.

Fig 10



Uninstall

Should you need to remove the LightFrame software, please follow these steps.

- 1) First, click on the Start Menu.
- 2) Next, highlight Settings.
- 3) Then, click on Control Panel.
- 4) Now, click on Add/Remove Programs
- 5) Finally, select LightFrame from the list and then click on the Add/Remove button.

Go to cover page

Operating LightFrame

After installation, LightFrame starts up automatically whenever the computer is started. At system start up, LightFrame checks the selected resolution of the monitor and if the monitor is LightFrame capable.

Icon and Colors

An icon of a monitor represents LightFrame on your desktop. This icon appears as a shortcut on the Windows desktop. LightFrame has three (3) modes of operation: Active, Inactive, and Suspended. The same icon with a different color in its center represents each mode. Active = The LightFrame taskbar as below.



Inactive = The taskbar as below.



Suspended = The taskbar as below.



Notes

An active window must be 100% visible, i.e. it must be on top of all other windows or areas. If any part of another window or area overlaps a highlighted window, LightFrame automatically suspends operation. Once that window or area is removed and the original highlighted window is on top again, LightFrame automatically re-engages and the icon regains its bright green center.

An active window must also be 100% on the monitors viewing area. If part of a highlighted window moves off the monitors viewing area, LightFrame automatically goes into the Suspended mode. If part of a window is off the viewing area, you will not be able to use LightFrame on that window.

Only one window or area at a time can be highlighted.

How To Activate LightFrame

- 1) Click on the LightFrame icon in the system tray. The icon will be changed to Fig. B.



Fig. A

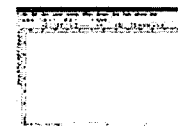


Fig. B

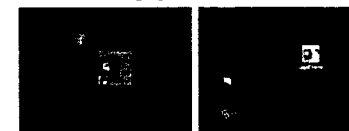
- 2) Guide the mouse to the window you want displayed. As you move the mouse, the cursor changes to a small arrow with a light bulb.



- 3a) Click on the window you want to have highlighted. The brightness and sharpness are automatically adjusted.



3b) If you want to highlight only an area of a window, click on the left mouse button and drag the cursor over the area to be highlighted while holding the mouse button. A rectangle forms around the area. When the area is encompassed by the rectangle, release the mouse button and the area becomes highlighted.



How to Deactivate LightFrame

To deactivate, click on the LightFrame icon in the System Tray of the Taskbar. Click on the icon, as Fig. 1 and Taskbar will be changed to Fig. 2 and LightFrame is deactivated.







Fig. 1



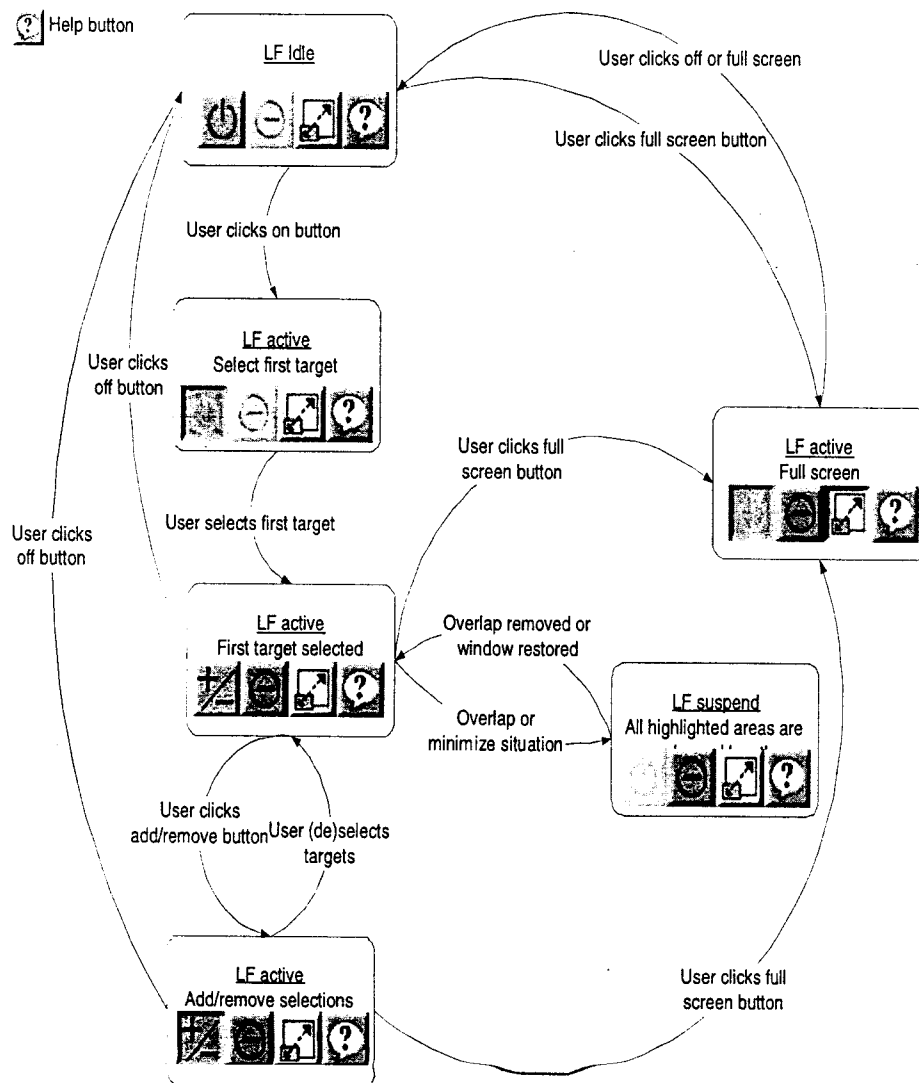
Fig. 2

Note

If a highlighted window is closed before LightFrame is deactivated, LightFrame is automatically deactivated.

-  On button
-  Add/remove button
-  Off button
-  Full screen button
-  Help button

LightFrame 3 State and transition diagram Combined with Control bar appearance



0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential!

1. Servicing of SMDs (Surface Mounted Devices)

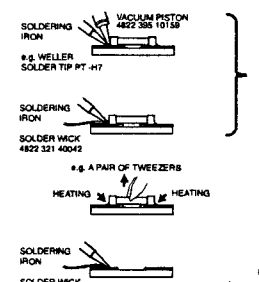
1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering. Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



- While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).
- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1 C).

1.3 Caution on removal

- When handling the soldering iron, use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should

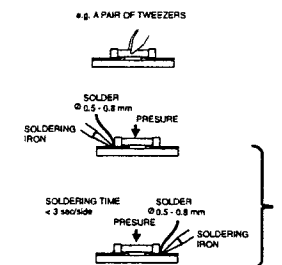
preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).

- The chip, once removed, must never be reused.

1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig. 2A).
- Next complete the soldering of the terminals of the component (see Fig. 2B).

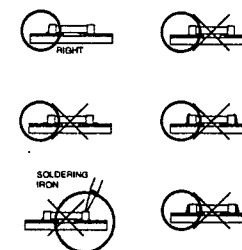
Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

Fig. 3 Examples



Safety test requirements

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All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both Hipot and Ground Continuity testing.

HI-POT TEST INSTRUCTION

1. Application requirements

- 1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.
- 1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

2. Test method

2.1 Connecting conditions

- 2.1.1 The test specified must be applied between the parallel-blade plug of the mains cord and all accessible metal parts of the product.
- 2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.
- 2.1.3 The mains switch(es) must be in the "ON" position.

2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range (or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A, AC Test time: 3 seconds(min.) Resistance required: $\leq 0.09 + R$ ohm, R is the resistance of the mains cord.
Test time (min.)	3 seconds	1 second	
Trip current (Tester)	set at 100 uA for Max. limitation; set at 0.1 uA for Min. limitation	5 mA	
Ramp time	set at 2 seconds		

- 2.2.1 The test with AC voltage is only for production purpose, Service center shall use DC voltage.
- 2.2.2 The minimum test duration for Quality Control Inspector must be 1 minute.No breakdown during the test.
- 2.2.3 The test voltage must be maintained within the specified voltage $\pm 5\%$.
- 2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection

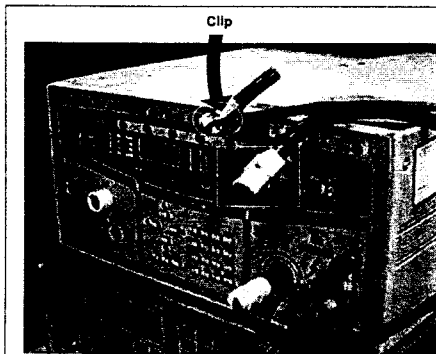
3.1. Equipments

For example :

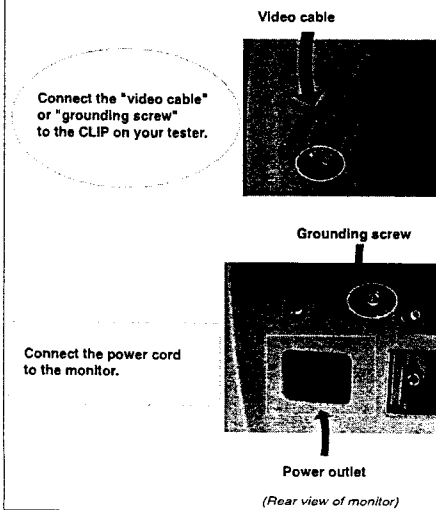
- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

3.2. Connection

- * Turn on the power switch of monitor before Hipot and Ground Continuity testing.



(ChenHwa 9032 tester)



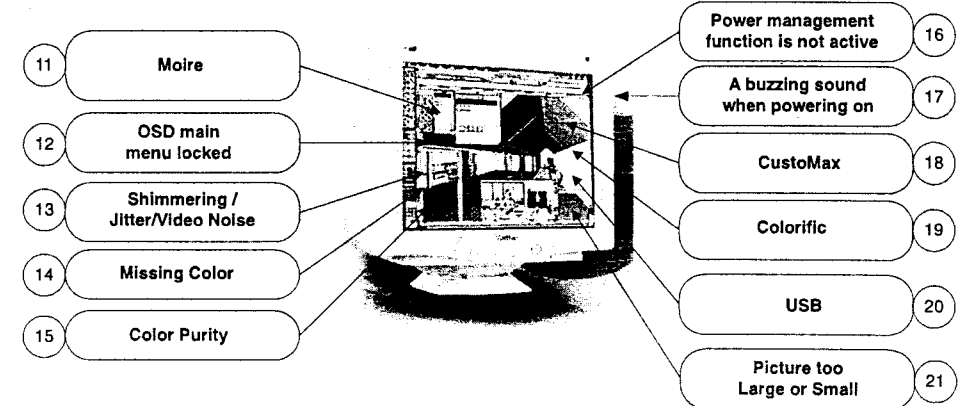
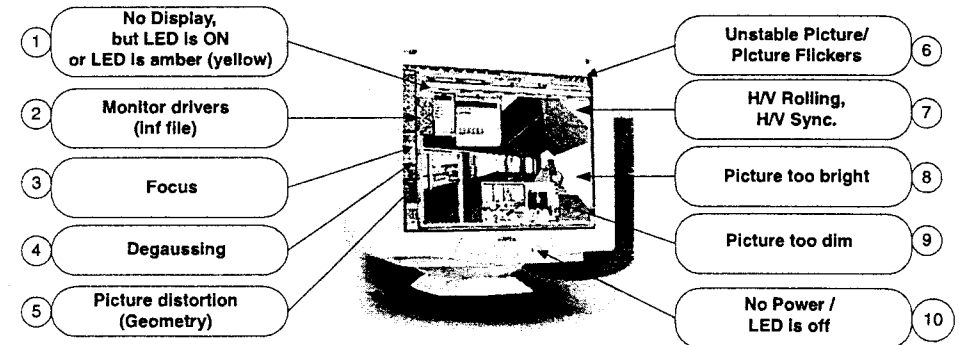
4. Recording

Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

General Troubleshooting Guide

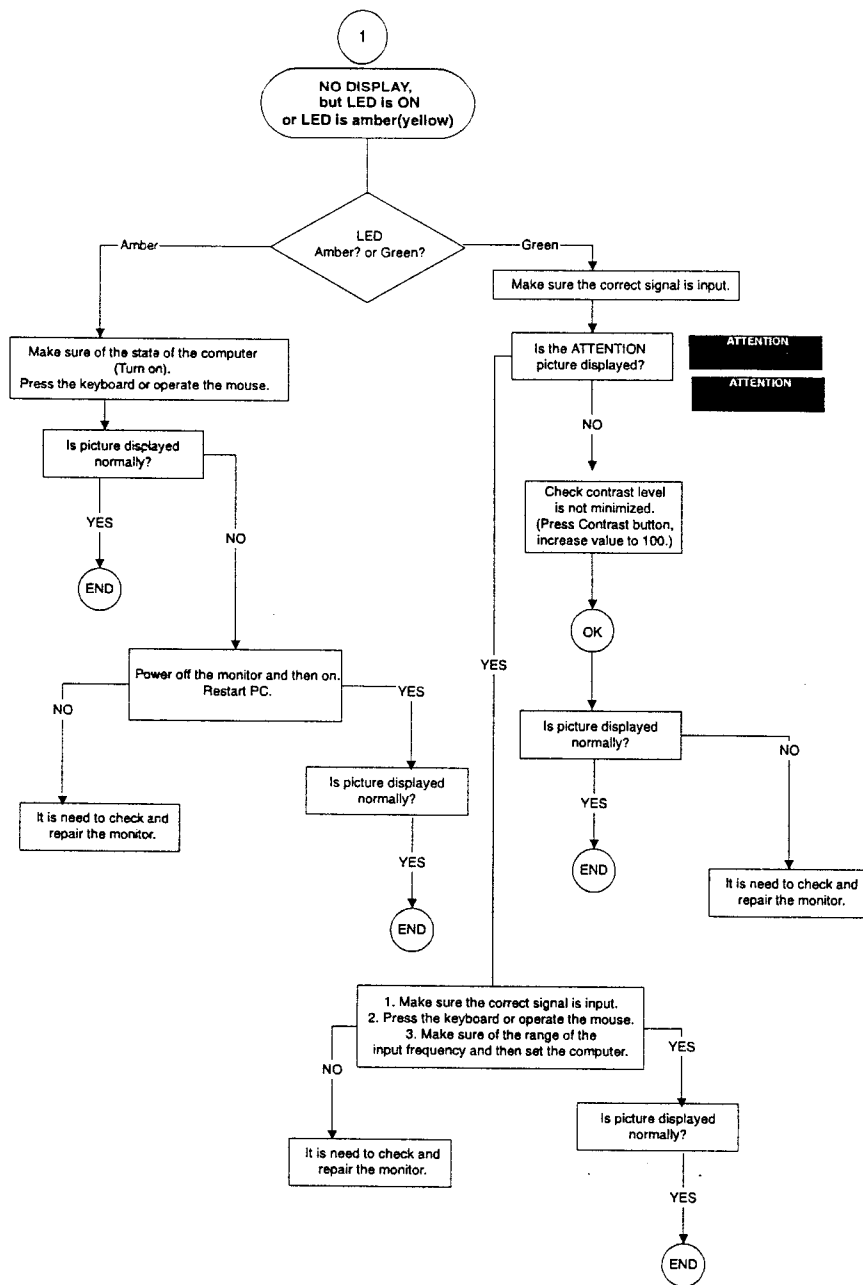
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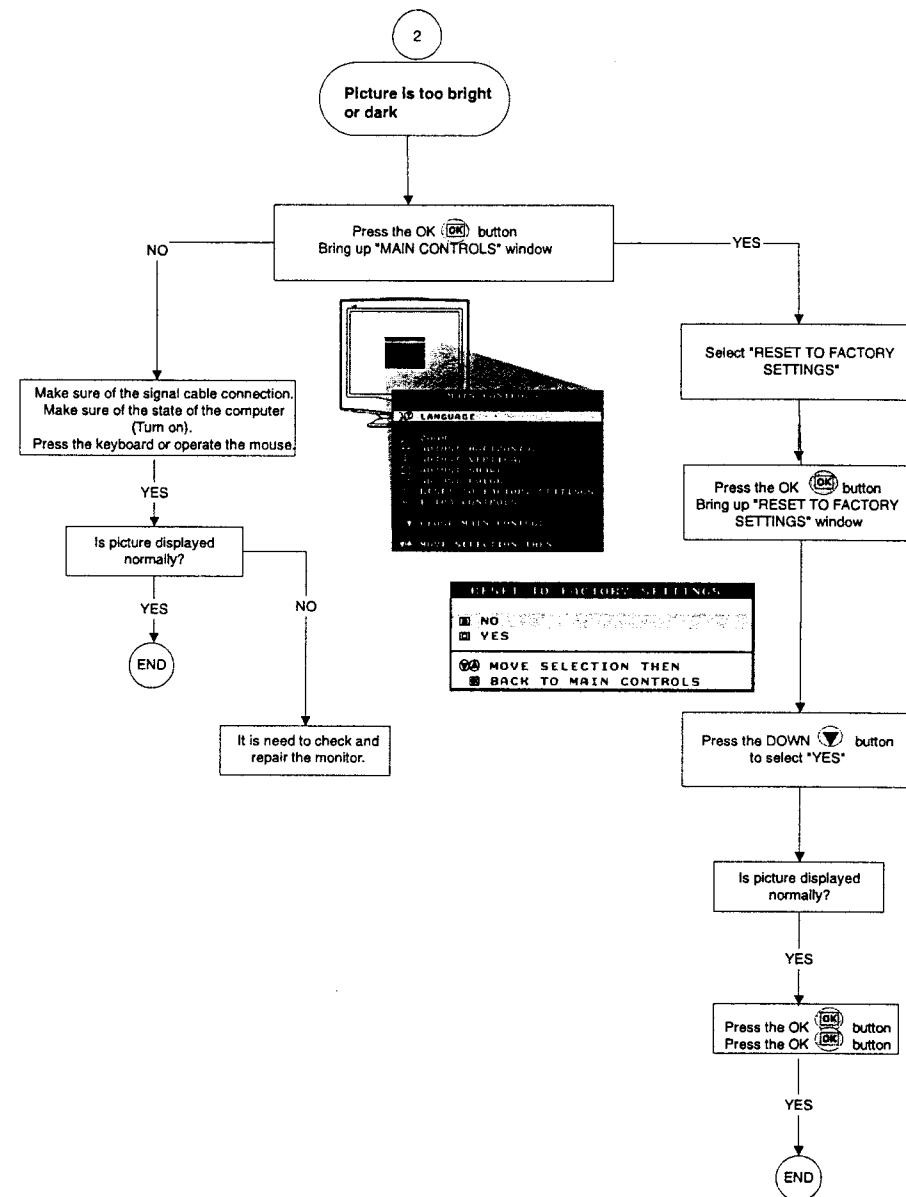


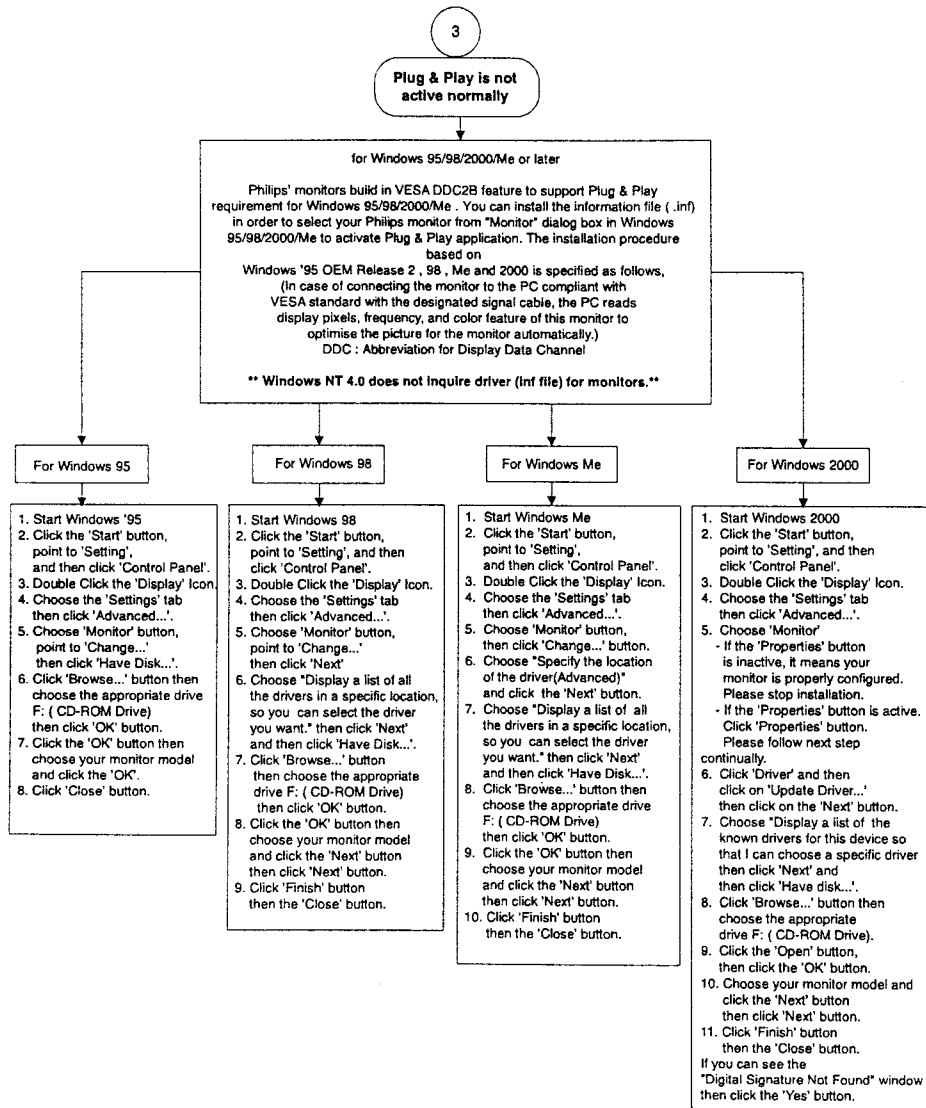
Note : Not all described feature are applicable for all monitors.

General Troubleshooting Guide

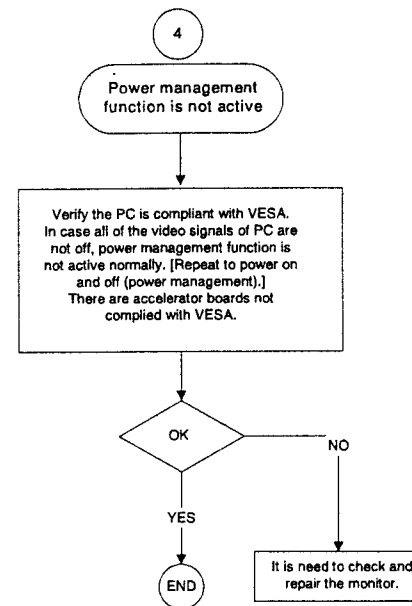


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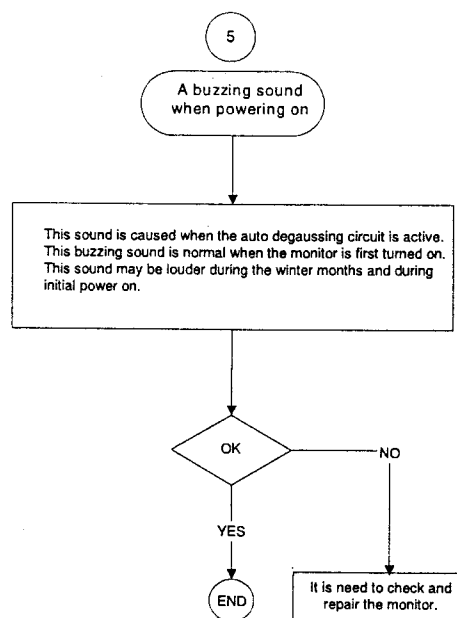




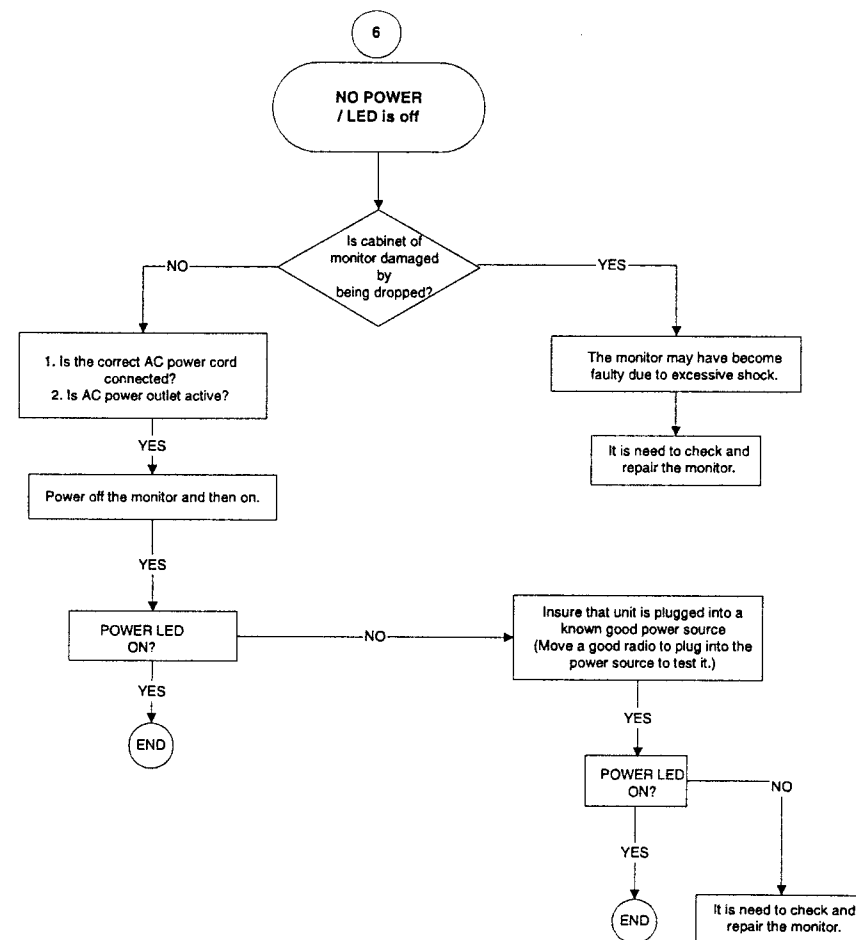
If your Windows 95/98/2000/Me version is different or you need more detail installation information, please refer to Windows 95/98/2000/Me user's manual.



General Troubleshooting Guide

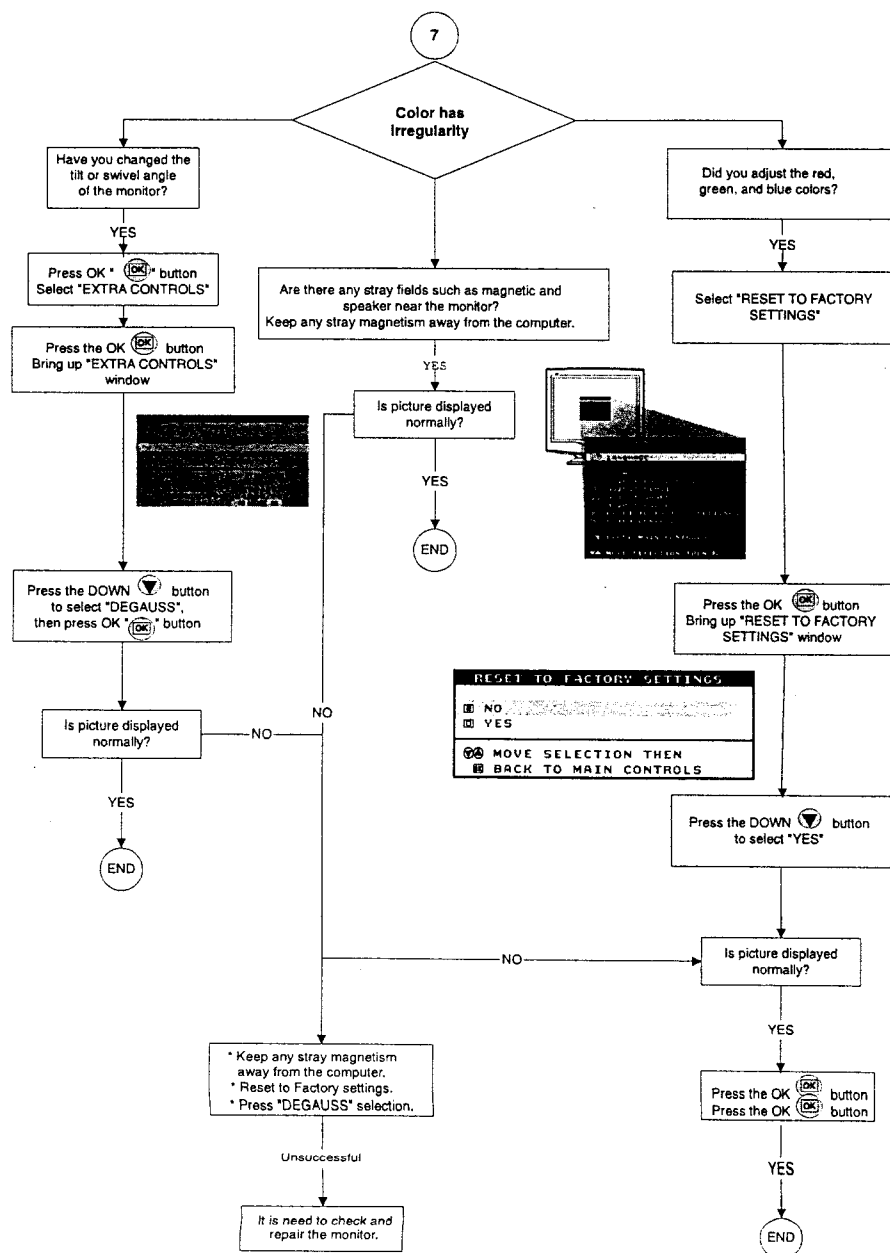


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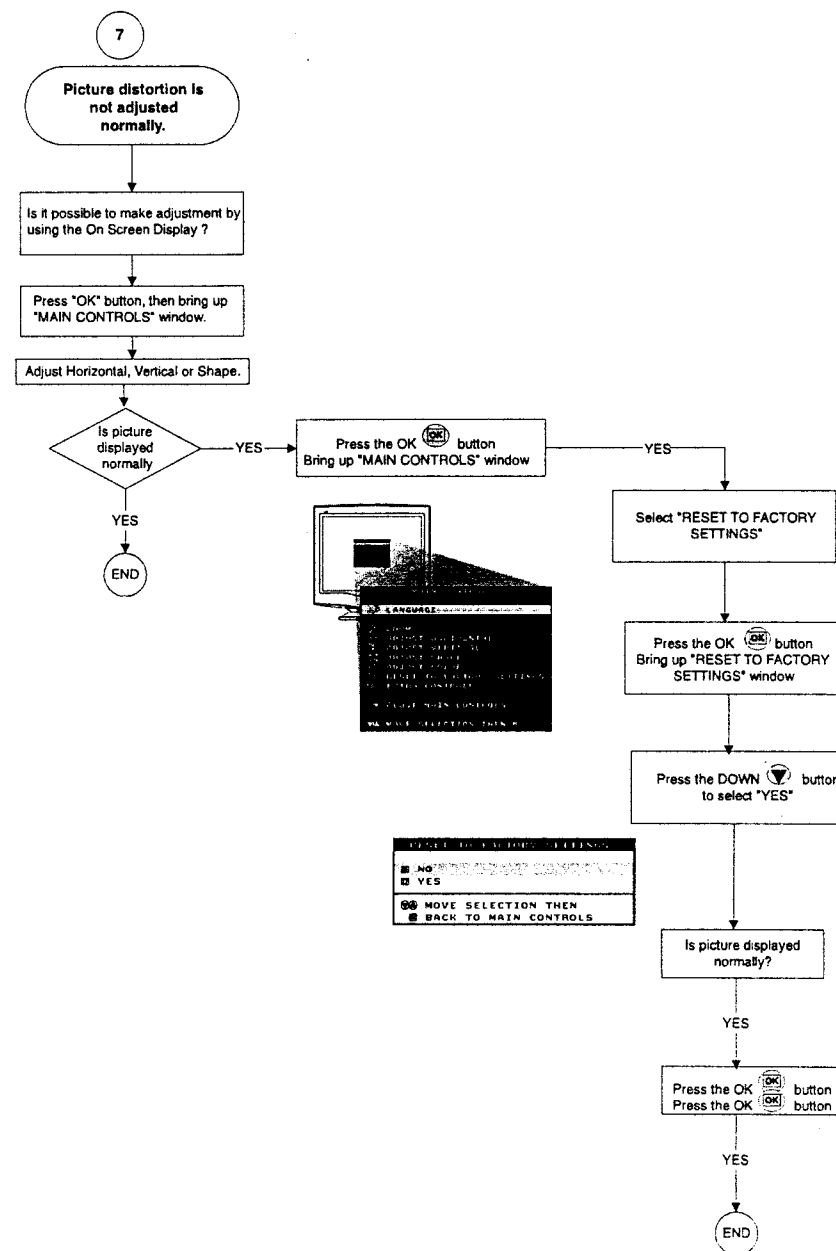
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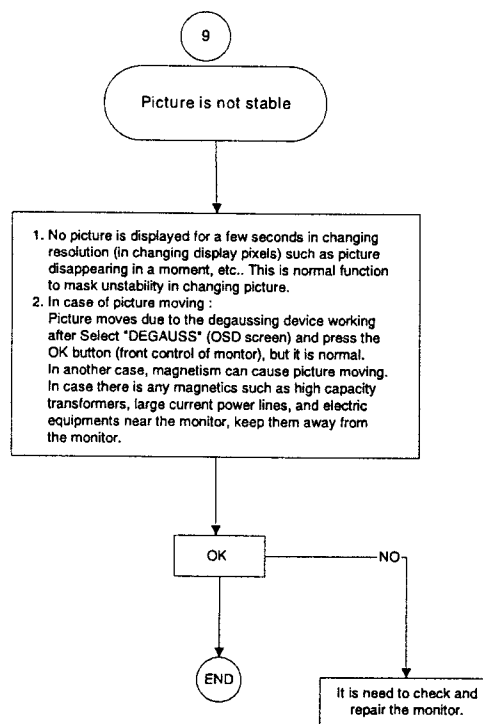


General Troubleshooting Guide

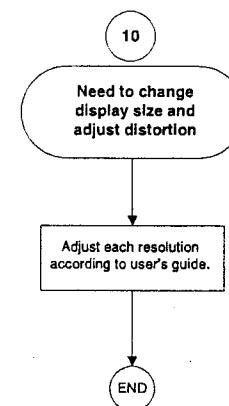
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General Troubleshooting Guide

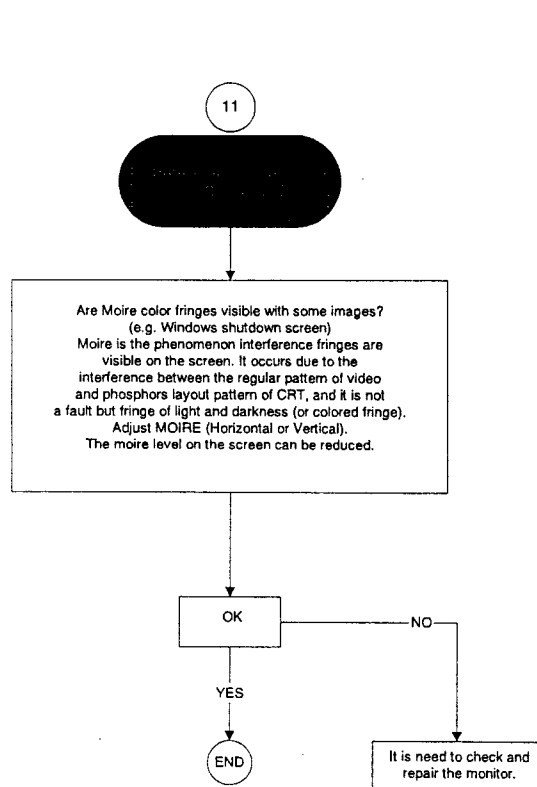


General Troubleshooting Guide



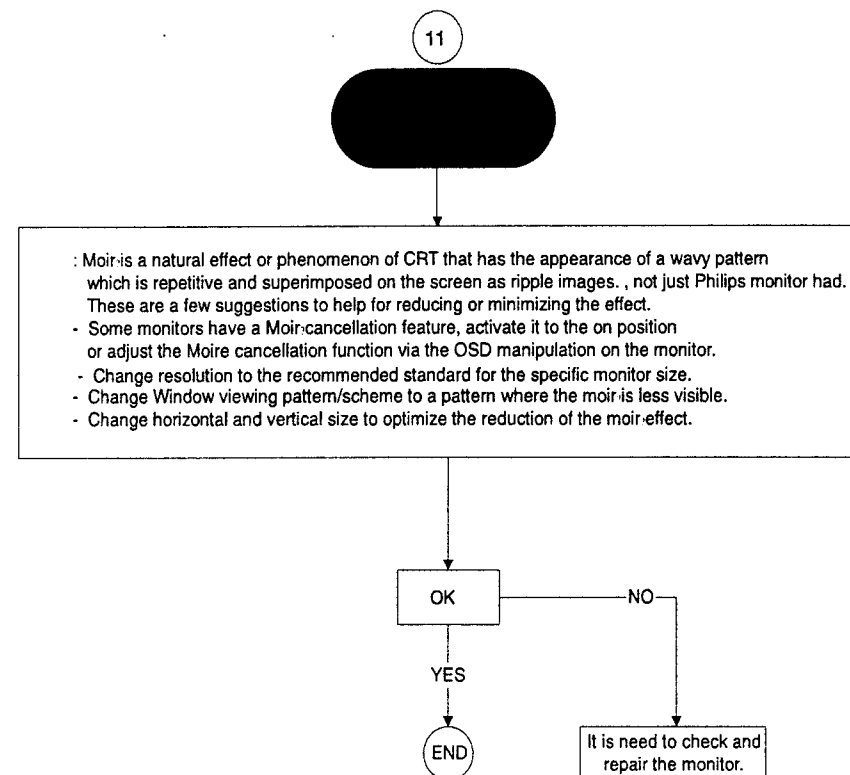
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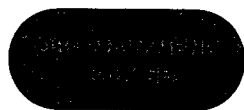


MOIR

A fringe pattern arising from the interference between two superimposed line patterns. In a monitor it comes from the interference between the shadow mask pattern and the video information (video moir, and between the shadow mask and the horizontal line pattern (scan moir. It shows itself as wavy patterns on the screen and becomes more noticeable as monitor resolution increases. Since the video signals varies continuously, little can be done about video moir. Scan moir depends on the horizontal scanning frequency and can be alleviated by appropriate choice of this frequency. Autoscans (MultiSync) monitors, however, which operate over a range of scanning frequencies, may sometimes exhibit moir in certain video modes.

Several sources can act as a catalyzer to produce Moire. They are : The CRT, shadow mask, the electron beam spot size, the resolution, video patterns, and the horizontal and vertical size.

General Troubleshooting Guide



Press and hold the OSD menu key for about 10 seconds ,
until picture displays "OSD MAIN MENU UNLOCKED"

OK

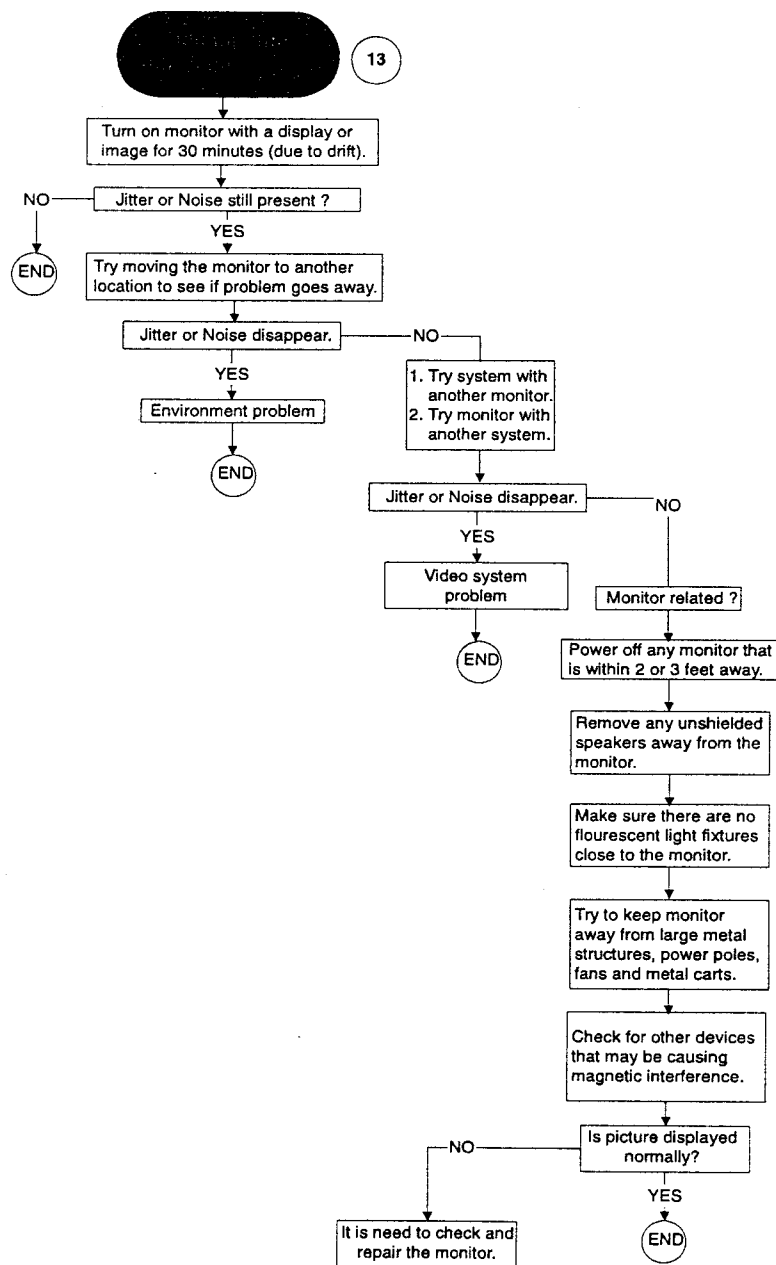
NO

YES

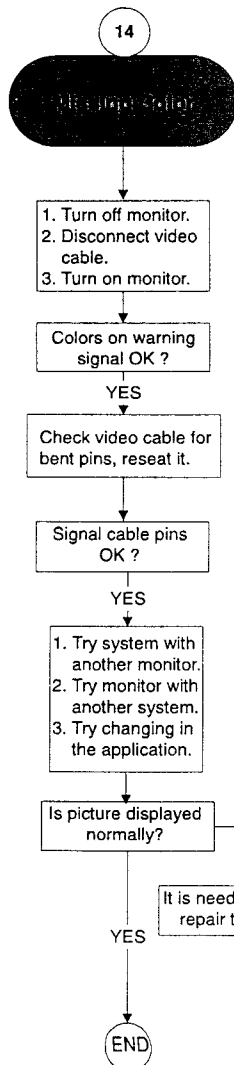
END

Please contact your
dealer/reseller for
more information.

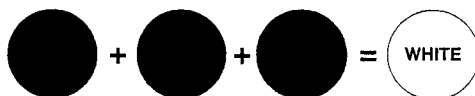
General Troubleshooting Guide



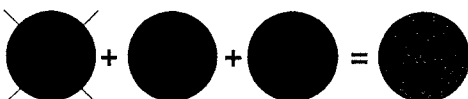
General Troubleshooting Guide



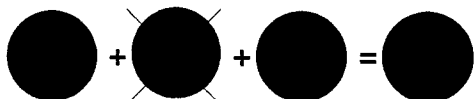
- There are 2 easy ways to determine the Missing color problem.
1. View an image that is supposed to be "White".
If one of the colors (RGB) is not functioning, White can not be produced.
 2. View an image that supposed to contain Red, Green and Blue.
Color problems will be apparent when one or more of these colors can not be displayed.



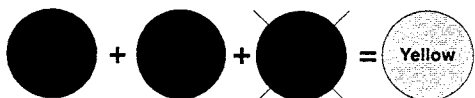
Cyan Color means that the red gun is missing.



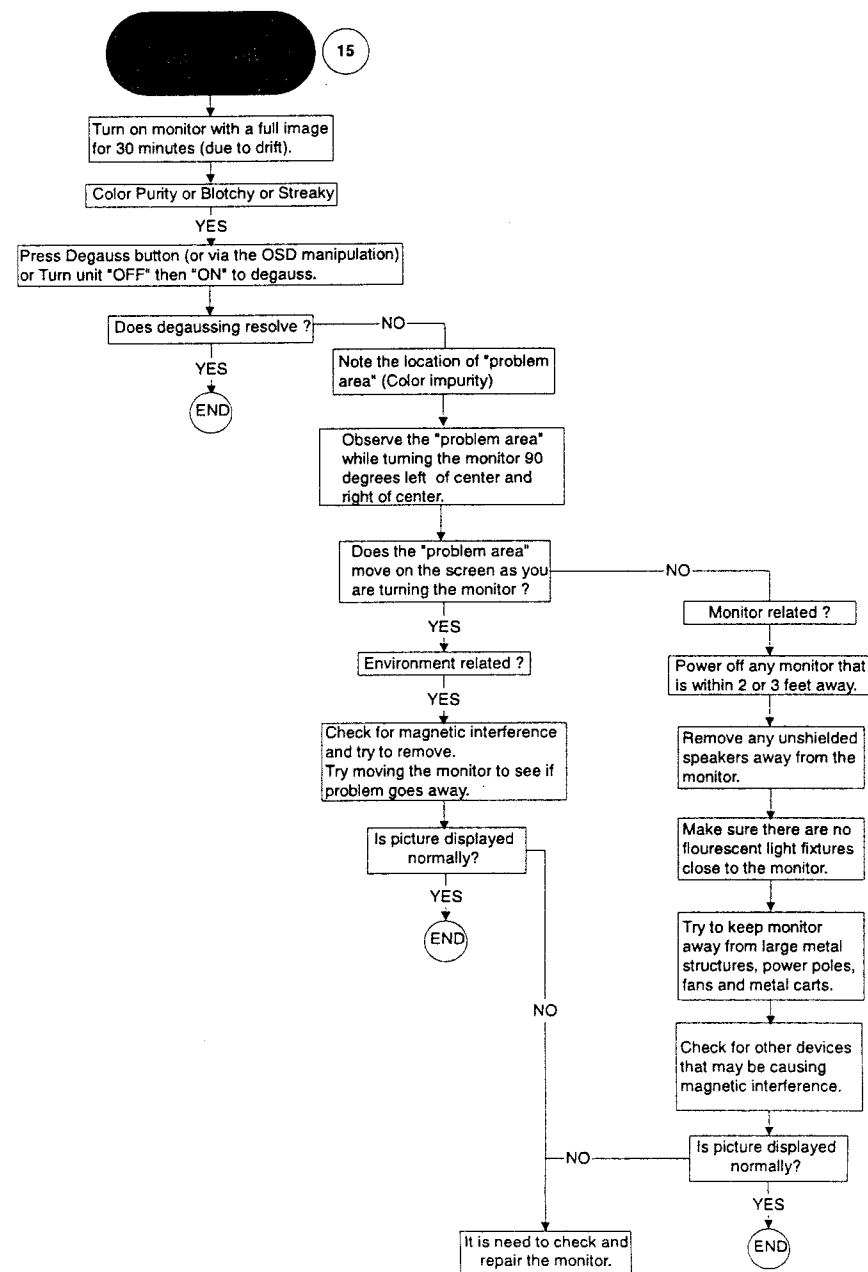
Magenta or Purple Color means that the green gun is missing.

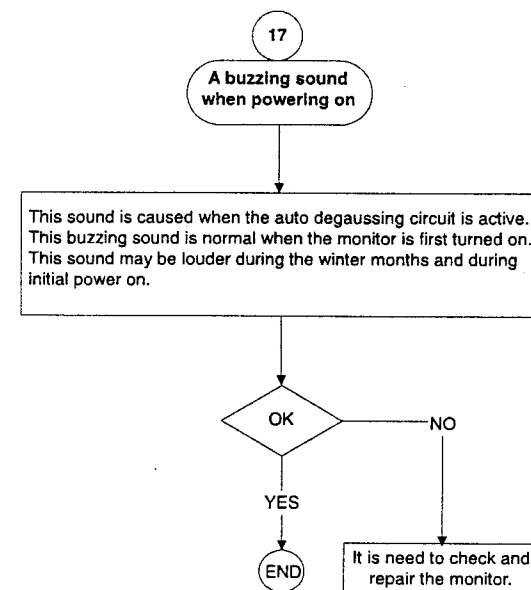
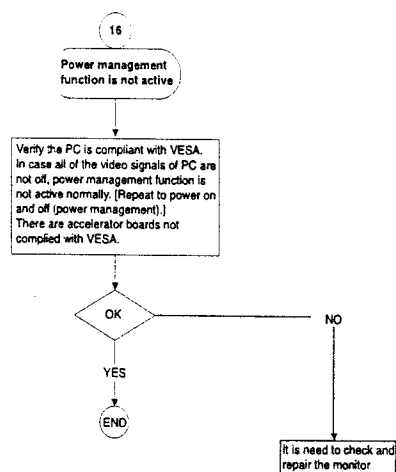


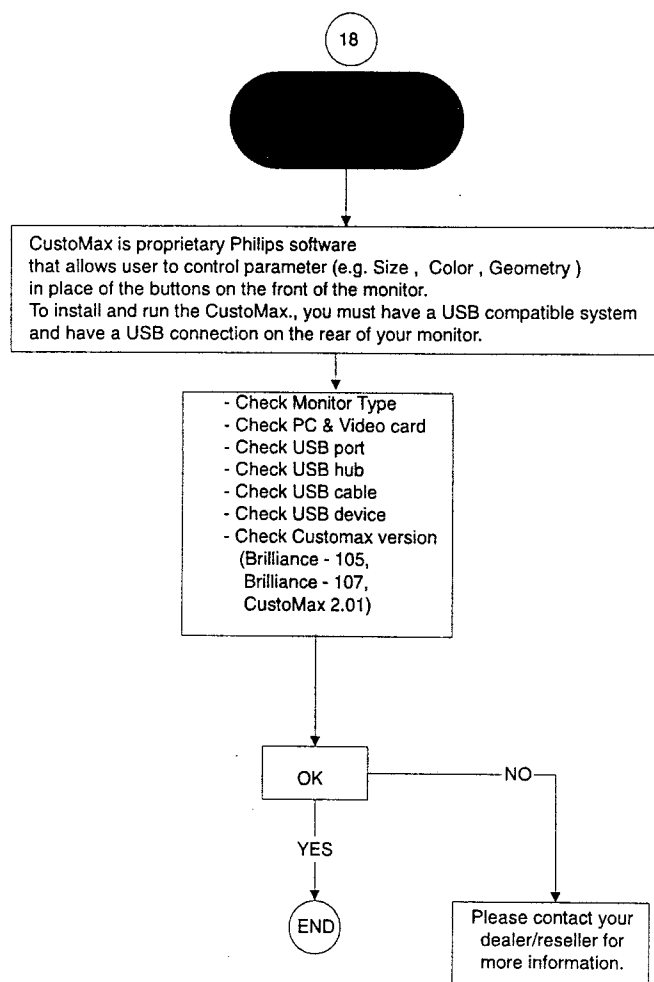
Yellow Color means that the blue gun is missing.



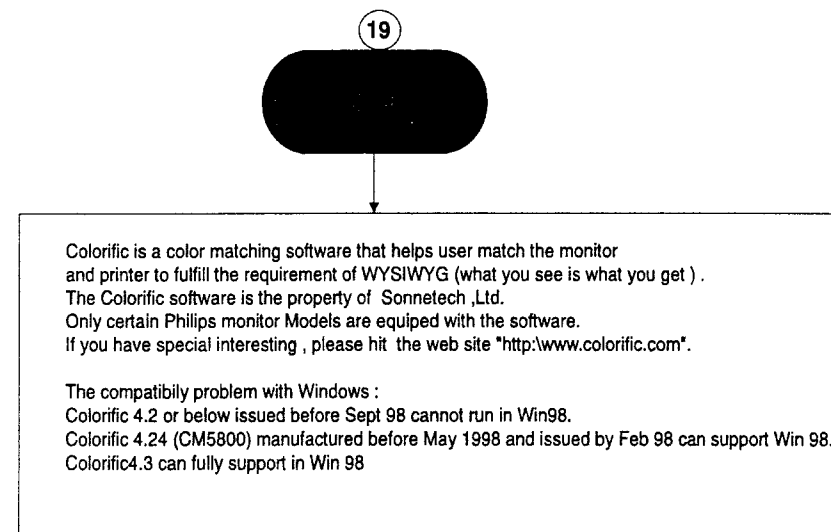
General Troubleshooting Guide



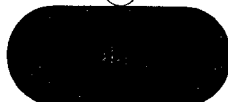


**Features:**

CustoMax for monitors is a software program for adjusting the screen geometry, color quality, image quality and hardware and software settings of your display.



20



USB = Universal Serial Bus

USB automatically determines resources (like driver software and bus bandwidth) required by peripherals.

USB makes necessary resources available without user intervention.

It is designed to meet Microsoft Plug and Play (PnP) specification, meaning users can install, and hot-swap devices without long installation procedures and reboots.

It allows 127 devices to run at the same time on the bus.

USB bus provides two types of data transfer speed -- 1.5Mbps and 12Mbps and it can provide a maximum of 500mA of current to devices attached on the bus.

Universal means all peripherals share the same connector.

Serial simply defines devices can daisy chain together.

Universal Serial Bus 1.1, the de facto external connectivity standard for Mac and PC, has picked up the speed after its slow adoption by peripheral manufacturers, users and PC OEMs.

USB 2.0 :

Drafted by Compaq, Hewlett Packard, Intel, Lucent, Microsoft, NEC and Philips, USB Specification version 2.0 will increase device data throughput up to 480Mbps, 40 times faster than USB 1.1 devices.

21



: Reset monitor via OSD menu manipulation
: Adjust the Horz(width) and/or Vert size (height) in the On Screen Display.
: Change monitor timing to work at the recommended resolution.

OK

NO

YES

END

Please contact your
dealer/reseller for
more information.